The Indigenous Languages of South America
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The Indigenous Languages of South America

A Comprehensive Guide

Edited by
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Preface

Lyle Campbell and Verónica Grondona

It was often repeated until recently that the languages of South America were among the least known of the world. The situation has changed dramatically – in the last 15 years or so, grammars and dictionaries of numerous previously poorly known languages have been produced and considerable progress has been made in the understanding of many aspects of South American indigenous languages. Significant advances have been achieved in understanding of their history and classification, of language contact and potential linguistic areas, of their structural characteristics and typological traits, and of unusual features found among South American languages that contribute to greater understanding of the full range of what is possible in human languages. Given the exceptional amounts of new information on nearly all aspects of these languages, now is an excellent time to bring these results together and to provide a survey of the current state of knowledge concerning South American Indian languages and to contribute to an assessment of where future research might best be aimed. The chapters of this volume attempt to provide that view. Not only do these chapters assess the state of knowledge in their areas, each chapter – written by foremost specialists in these areas – also provides much new information, assembled here for the first time.

Initially the plan was that most of the chapters would be written by Latin American scholars who are specialists in the particular areas. However, for different and unconnected reasons, several of these authors had to withdraw and in these cases North American or European scholars stepped in to provide these sections. For example, when the original author for the chapter on the typology of South American indigenous languages was unable to prepare this chapter, it fell to Lyle Campbell, one of the editors of the volume, to do this. This explains why Campbell has more than one chapter in the volume, though that had not been the intention.

The chapters cover principal topics in South American Indian linguistics.

Willem Adelaar's "Historical overview: Descriptive and comparative research on South American Indian" languages provides context and the historical overview of what we know of these languages and of the research that has been done. The chapter "Classification of the indigenous languages of South America", by Lyle Campbell, provides an extensive survey of South America's remarkable linguistic diversity, with the most current information on the classification of South America's 53 language families and 55 isolates, that is, 108 known families and isolates together, including assessment of proposals of more distant relationships and listing of named but mostly unknown other "languages". Mily Crevels provides an exceptionally detailed and insightful assessment of South America's endangered languages in "Language endangerment in South America: The clock is ticking".

Pieter Muysken's chapter, "Contacts between indigenous languages in South America", describes aspects of language contact among the languages of South America, a vast and almost intractable topic made accessible in Muysken's highly informative treatment.

Structural and typological traits of South American languages are addressed in three chapters. Luciana Storto and Didier Demolin survey the extensive literature in their chapter "The phonetics and phonology of South American languages". These languages have provided many new insights for phonetics and phonology. In "Typological characteristics of South American indigenous languages", Lyle Campbell focuses on unique or unusual typological traits in South America which contribute to typology generally and on traits characteristic of particular areas of South America. Adelaar, in his chapter "Languages of the Middle Andes in areal-typological perspective: Emphasis on Quechuan and Aymaran", examines typological traits among Andean languages. The extreme genetic and typological diversity encountered in South American languages makes the findings discussed here of particular value to linguistics generally.

Given that South America has about one fourth of the language families (including isolates) of the world, it is obviously not possible to discuss each family in detail in this book. Instead, some of the most influential language families and areas were selected for specific treatment. Adolfo Constenla Umaña provides a definitive and authoritative treatment of the Chibchan languages, with a history of the research on languages of this family, phonological and grammatical reconstruction of Proto-Chibchan, subgrouping classification, proposals concerning external relationships, Proto-Chibchan homeland, lexical reconstruction and the culture of the speakers of Proto-Chibchan, and linguistic areas which involve Chibchan languages. Spike Gildea, in "Linguistic studies in the Cariban family", gives a thorough survey and updating of the significant aspects of Cariban linguistics. The chapter covers classification and subgrouping of Cariban languages, survey of recent literature, possible broader connections, phonological features of the proto language and aspects of phonology in the modern languages, the issue of adjectives, and the complex verb alignment in these languages and their historical developments. Aryon Rodrigues and Ana Suelly Cabral provide a thoroughgoing review of the Tupían languages. They provide a definitive classification of the languages of this extensive family, and they discuss details of the phonological reconstruction and of the historical morphosyntactic properties of these languages, with a typological overview. They discuss lexical and semantic categories.

Willem Adelaar's chapter "Languages of the Middle Andes in areal-typological perspective. Emphasis on Quechuan and Aymaran" explores the typology of Quechuan and Aymaran, and their environment from a historical and geographical perspective. Adelaar compares in detail the typological characteristics of the languages of the Middle Andes. The chapter provides an overview of the historical developments that are important for understanding the language situation in the

Middle Andes. Issues concerning genetic classification and linguistic diffusion are discussed, and Adelaar's interpretation of Quechuan-Aymaran contact history is introduced.

Like Adelaar, Lyle Campbell and Verónica Grondona in their chapter "Languages of the Chaco and Southern Cone" survey traits of the languages of a large area of the southern end of South America. The chapter has two goals: to present an overview of languages of the Southern Cone, concentrating on their classification and on structural traits which characterize languages in the region, and to address the question of whether languages of the Gran Chaco constitute a linguistics area.

It is hoped that the excitement from new discoveries and the clear urgency associated with the many endangered languages reported in the chapters of this book will stimulate even greater efforts towards documentation of indigenous languages of South America. It is hoped the findings and facts reported in this book will find their way to a broad audience of linguists and other scholars, and that they will help to enrich understanding of language broadly and will make knowledge of South American languages more readily available and better known generally.

Historical overview: Descriptive and comparative research on South American Indian languages

Willem F. H. Adelaar

1. Introduction

The extreme language diversity that was characteristic for South America must have been a challenge to native groups throughout the subcontinent, struggling to maintain commercial and political relations with each other. Due to the absence of phonetically based writing systems in pre-European times there is hardly any documentation about the way cross-linguistic communication was achieved. However, the outlines of a conscious linguistic policy can be assumed from the Incas' success in imposing their language upon a millenary multilingual society. Second-language learning, often by users of typologically widely different languages, must have been an everyday concern to the subjects of the Inca empire. Sixteenth-century chroniclers often report in a matter-of-fact way on the ease and rapidity with which native Americans mastered the language of their conquerors, be it Quechua, Spanish or any other language. Apart from such cases of political necessity, there are indications that language played an essential role in many South American native societies and that it could be manipulated and modified in a deliberate way. The use of stylistic speech levels among the Cuna (Sherzer 1983) and of ceremonial discourse among the Mbyá (Cadogan 1959; Clastres 1974), the Shuar (Gnerre 1986) and the Trio (Carlin 2004), the appreciation of rhetorical skill as a requisite for leadership among the Mapuche, the distinction of female and masculine speech among the Karajá (Rodrigues 2004) and the Chiquitano (Galeote 1993), the association of language choice and family lineage among the peoples of the Vaupés region (Sorensen 1967; Aikhenvald 2002), and the association of language choice and professional occupation in highland Bolivia (Howard 1995) appear to indicate an awareness of linguistic functionality not limited to daily communication alone. The existence of engineered professional languages, such as Callahuaya, based on the unification of elements from two or more languages (Stark 1972; Muysken 1997), or contact languages based on the same principle, such as the Ecuadorian Media Lengua (Muysken 1979), the unusual and complex borrowing relations that exist between Aymaran and Quechuan (Cerrón-Palomino 2000: 298–337), or between Amuesha and a neighboring variety of Quechuan (Wise 1976, Adelaar 2006) all suggest a tradition of conscious and deliberate choices relating to language use. Finally, the extraordinary complexity and rigidity of the grammatical systems of many South American languages suggest the opposite of anything such as sloppiness or indifference towards linguistic matters.

2. Spanish and Portuguese colonial grammars and lexicography

In the second decade of the 16th century, Francisco Pizarro, a native of Extremadura in Spain, set out from Panama with a handful of adventurers in search of the legendary riches of the Inca Empire. Remembering the tiresome linguistic experiences of his predecessors in Mexico, Central America and the Antilles, Pizarro made it a priority to be able to count on reliable interpreters before starting his conquest. For that purpose, several young men were abducted by the Spaniards roaming the coast of present-day Colombia. They were trained as *lenguas* or *lenguaraces*, interpreters able to speak and understand both Spanish and the Inca language. According to the chronicler Juan de Betanzos ([1551] 1987: 284–285), one of these interpreters was to play a sinister role during Inca Atahualpa's captivity and the process leading to his execution in 1533. This event illustrates the position of manipulative power that befell individuals able to bridge the communication gap in the early days of Spanish-Indian contact.

Right from the beginning, communication with the indigenous Americans and their innumerable languages became a major challenge to the conquerors and the colonial rulers that succeeded them. In order to effectively achieve the integration of native peoples within the colonial society and in order to spread Christianity among them, a common basis of understanding was needed. No one expected that a majority of the multilingual indigenous population would adopt the language of the conquerors soon, nor that they would feel inclined to do so. Furthermore, at the beginning of the colonial period, Spanish speakers were thinly spread and few in number in the South American domains, even though a migratory current of adventurers from previously conquered territories in Central America and the Caribbean was rapidly gaining importance.

In these circumstances it was logical to look at the indigenous languages as a means to administrate the native peoples and propagate the Christian faith among them. Although some religious authorities argued that it was impossible to explain and discuss the essence of Roman Catholicism in a native American language, others found use of these languages essential for precisely that purpose. In 1596 King Philip II of Spain rejected a proposal made by the Council of the Indies (*Consejo de Indias*) for the forceful imposition of Spanish upon the indigenous population of the American territories. Instead, he ordered that the indigenous languages were to be used for the propagation of the Christian faith, and that priests engaged in missionary activity had to be fluent in the languages of the groups with which they intended to work (Zavala [1977: 38] cited in Rivarola [1990: 134]). From then on, knowledge of native languages became an obligatory component of the career descriptions of priests and members of religious congregations seeking employment in missionary activity and in the administration of the faith to indigenous peoples. This privileged status of the indigenous languages lasted until the second half of the 18th century, when the rulers of the Bourbon dynasty sought to

impose Castilian as the only language throughout Spain's American domains (Triana y Antorveza 1987: 505–511; cf. Ostler 2005: 373–374).

Notwithstanding the ongoing discussion about the suitability of American Indian languages for the transmission of religious matters, efforts to study and codify the Inca language started soon after the end of the devastating civil wars that hit the newly conquered empire during the first years of Spanish occupation. The Spanish rulers were in the fortunate position that the previous Inca administration had favored the use of a single language, a variety of Quechuan initially referred to as 'the general language of the Inca' (*lengua general del Ynga*). The name *Quechua* itself was probably not used until the second half of the 16th century (Cerrón-Palomino 1987: 32). Since the *lengua general* was widely used and understood, the Spaniards paid little attention to the multitude of local languages (*lenguas particulares*) that coexisted with the general Inca language at the time of their arrival. Only the most prestigious varieties of the Quechuan language group were taken into consideration, whereas the numerous Quechuan varieties of mainly local relevance were usually referred to as 'corrupt' versions of the Inca language. Occasionally, a divergent group of Quechuan varieties was treated as a separate language, as was the case of the central Peruvian Quechua I dialect group referred to as 'the Chinchaisuyo language' (*lengua chinchaisuyo*) in the wordlist by Figueredo ([1700] 1964). In the second half of the 16th century, the still widely spoken *Aymara* language also became an object of study, but the full extent of the linguistic diversity that once existed in the central Andean region remained largely unnoticed. By contrast, indigenous languages spoken in areas beyond the borders of the former Inca Empire, where Quechua was not the obvious *lingua franca*, were often painstakingly documented.

As might be expected, the study of the indigenous languages of the Spanish colonial domain lay entirely in the hands of missionaries and members of religious congregations. The first published description of a Quechuan language, consisting of a grammar and a dictionary, was authored by a Dominican and defender of the Indian cause, Domingo de Santo Tomás ([1560] 1994a, [1560] 1994b). His work represents the extinct variety originally spoken near Lima on the central Peruvian coast, with an admixture of elements traceable to the Quechuan varieties of the interior of central Peru. Santo Tomás' description is revealing because it reflects a Quechuan language as it was used at a local level and because it contains features no longer viable in most of the modern varieties, such as a rather unexpected prosodic system. Soon after, in the context of the reforms initiated during the viceroyship of Francisco de Toledo (1569–1581), the Third Council of Lima (*Tercer Concilio Limense*) initiated a project of normalization that sought to unify the numerous existent varieties of Quechuan. A committee of language specialists, some of them native speakers themselves, set out to establish a new norm for Quechua, by combining elements of its most important varieties and by eliminating some of the phonological complications, for instance, the distinction of glottaliz-

ation and aspiration and the contrast between velar and uvular stops (Itier 1991: 70; Mannheim 1991: 142). The new linguistic standard, which is exemplified by the religious instructions collected in the *Doctrina Christiana y catecismo para instrucción de los indios* (Ricardo [1584] 1985), remained in use as a written medium among indigenous elites for a couple of decades (Itier 1991).

A case of a language that can only be studied today through the analysis of a religious text is Puquina. In the second half of the 16th century, Puquina was still counted as one of the 'general languages' (*lenguas generales*) of Peru. Nevertheless, it probably became extinct in the early 19th century. The multilingual *Rituale seu Manuale Peruanum* of Gerónimo de Oré (1607), although quite unsatisfactory as a language source, contains the only available information on the Puquina language. As long as no other sources are discovered, our knowledge of this language will remain limited and uncertain.

The arrival in the New World of members of the Jesuit order, established in 1569 by Saint Ignatius of Loyola, initiated a period of great and largely systematic activity in the field of language documentation. One of the first Jesuit language specialists in South America was Alonso de Barzana (or Bárcena) (1528–1598). He wrote a number of grammatical descriptions, several of which were lost. Among the lost works were grammars of the extinct Diaguita and Tonocoté languages, once spoken in what is now northwestern Argentina. The first decade of the 17th century brought some of the most brilliant descriptions of South American languages (all by Jesuits) in the entire colonial period. Diego González Holguín ([1607] 1842, [1608] 1989) produced a grammar and a monumental dictionary of the then Cuzco variety of Quechuan. Ludovico Bertonio (1603, [1603] 1879, [1612] 1984), an Italian Jesuit, wrote two grammars and a dictionary of the Aymara language as it was spoken on the southern banks of Lake Titicaca. Luis de Valdivia ([1606] 1887) documented the Araucanian language (today's Mapudungun) of Chile and also provided grammatical studies of the extinct Allentiac and Millcayac languages, which were spoken in the area of Mendoza, San Juan and San Luis in present-day Argentina (Valdivia [1607] 1894; Márquez Miranda 1943). All three authors still cause modern readers to admire them, Holguín for his extensive lexicography, Bertonio for his keen sociolinguistic observations, and Valdivia for his phonetic accuracy and his eloquent discussion of novel linguistic phenomena such as noun incorporation.

A few decades later, the Jesuit grammar tradition developed in Peru was continued in the eastern lowlands with the work of Antonio Ruiz de Montoya on classical Guaraní. Montoya published a Guaraní-Spanish dictionary (*Tesoro de la lengua guaraní* [Montoya (1639) 1876]) and a grammar with a Spanish-Guaraní vocabulary (Montoya [1640] 1994). The *Tesoro* 'thesaurus' contains a wealth of semantic and ethnographic information helpful for understanding the transformation of the language during the Jesuit regime in the Paraguayan missions. Montoya's work complements that of another Spanish Jesuit, Joseph de Anchieta

([1595] 1946), who wrote a grammar in Portuguese of the Tupinambá (Tupí) language spoken along the Brazilian coast and on the lower course of the Amazon River. Guaraní and Tupinambá were closely related languages with a vast geographical distribution and with numerous speakers. The former has maintained its viability in several modern forms (Paraguayan Guaraní, Mbyá, Nhandéva, etc.), whereas the latter is now partly reflected in Nheengatú or Yeral, a *lingua franca* spoken in Brazil on the upper Rio Negro (to a lesser extent also on the upper Amazon) with extensions into Colombia and Venezuela.

The Chibcha or Muisca language of the eastern highlands around Bogotá in Nueva Granada (today Colombia) also benefited from the attention of Spanish grammarians. No less than three grammars of this language have been preserved. The oldest one, by Bernardo de Lugo ([1619] 1978), is innovative in its use of symbols, but less accurate than the remaining two grammars, which are rather similar, if not overlapping, and which are accompanied by wordlists (Lucena Salmoral 1967–1970; González de Pérez 1987; Quesada Pacheco 1991). These (anonymous) grammars have been attributed to Joseph Dadey, an Italian Jesuit, known in his time as the leading specialist on the Muisca language, although there is no firm proof of his authorship. The existence of three competing grammars of this language offers a challenging field of research for descriptive and historical linguists. The Muisca language was reported extinct in the 18th century, together with most of its close relatives and neighbors. It was the southernmost representative of the Chibchan language family, which extends into Central America (see Constenla Umaña, this volume). As for the languages of Tierra Firme (today Venezuela), the Spanish missionary contribution focused on a cluster of Cariban languages comprising Cumanagoto and Chayma (Tauste 1680; Tapia 1723).

During the remainder of the colonial period, grammatical work on the major languages of South America became less important and developed a tendency towards repetitiousness. As an exception, the Chilean grammar tradition focusing on the Araucanian or Mapuche (Mapudungun) language generated two important additional works, both by Jesuits, Febrés ([1764] 1975) and Havestadt (1777). While still drawing heavily upon their predecessor Valdivia, these grammars exhibit some original features. Furthermore, there was a shift of attention towards smaller surviving languages of local importance, resulting in significant and interesting grammars of languages such as Mochica of the northern Peruvian coast (Carrera Daza [1644] 1939), Cholón of the Huallaga valley in northern Peru (de la Mata [1748] 2007; see Alexander-Bakkerus 2005), and Lule, the language of an ethnic group of the Gran Chaco in northern Argentina that had been brought to the area of Tucumán in the 18th century (Machoni de Cerdeña [1732] 1877). Many grammars produced during the colonial period were initially preserved in manuscript form without being officially published. They were published much later or not at all. Quite a few grammars that we know to have existed were lost (as in the above-mentioned case of Barzana's works). It may be that at one time grammatical sketches in

manuscript form were available for the languages of most of the peoples of the Spanish domain accessible to the missions, but that only few of them were preserved (or await rediscovery in some archive in South America, Italy or Spain). A case of a published grammar that seems to have been lost is that of the Gorgotoqui language of the region of Santa Cruz de la Sierra in Bolivia by Gaspar Ruíz (Gonzales de Barcía 1737–1738). A contribution of a special kind are the wordlists of otherwise undocumented languages of northern Peru, collected by bishop Martínez Compañón between 1780 and 1790 (Martínez Compañón [1782–1790] 1985).

During the 18th century, missionary presence in the Amazonian lowlands of Bolivia and northern Peru, as well as in the lowlands of Colombia and Venezuela, generated additional descriptive work on languages of importance for the evangelization project (Achagua, Betoi, Chiquitano, Jebero, Maipure, Moxo, Yuracaré, Zamuco, etc.). Several of these grammars have remained in manuscript form, and some of them are in danger of becoming lost even today. Others were published in a modernized version at the end of the 19th century (Adam and Henry 1880; Adam 1893). A contribution to be mentioned in particular is that of Filippo Salvatore Gilij (1721–1789), an Italian Jesuit, who worked among the Tamanaco (Cariban) and Maipure (Arawakan) of the Orinoco basin. Apart from his descriptive work, Gilij (1782) can be credited for having first recognized the existence of a Maipuran or Arawakan language family, a remarkable achievement for his time (cf. Zamponi 2003b).

In comparison with the Spaniards, the Portuguese colonial authorities did little to stimulate the documentation of indigenous peoples and languages. All interest was focused on Tupinambá, the lingua franca or *língua geral* used by Indians and non-Indians alike. Of the multitude of other languages spoken in Brazil only three were documented during the colonial period, Guarulho or Maromomim, a Purían language of coastal São Paulo, of which a grammar once existed but was lost (Rodrigues 1999: 166), as well as Kipeá (Mamiani [1699] 1877) and Dzubukuá (de Nantes [1709] 1896), two languages of the Karirían family, a branch of Macro-Jê, located in northeastern Brazil (Rodrigues 1999: 170).

A most serious blow to language documentation in South America (and to native South American survival in general) came with the expulsion of the Jesuit Order from the Portuguese and Spanish domains (1759, 1767, respectively). The Marques of Pombal, responsible for the eviction of the Jesuits from Brazil, successfully organized their demise in the rest of South America and campaigned against their influence even after their forced return to Europe. (Pombal's actions may partly explain the scarcity of surviving colonial documents relating to the indigenous languages of Brazil.) Facing persecution, the Jesuit missionaries were forced to abandon their missions almost overnight. Many of them fled to Italy, taking along memories and field notes whenever possible. In the following decades, Lorenzo Hervás y Panduro (1735–1809), a Jesuit from Cuenca in Spain, collected and organized all the information he could get from his brethren in exile in a major

overview of Jesuit knowledge in the field of South American languages (Hervás y Panduro 1784–1787, 1800–1805).

Missionaries operating in Spanish South America, the Jesuits above all, maintained and elaborated a tradition of grammar description and lexicology that had its roots in late medieval Spain. As a rule, colonial grammarians were encouraged to follow the indications and adopt the categories provided by Antonio de Nebrija in his *Introductiones Latinae* ([1481] 1991) and in his *Gramática Castellana* ([1492] 1980). Admittedly, a rather weak point of the work of these grammarians was their poor ability to deal with the identification of speech sounds. They lacked a descriptive apparatus for this purpose and found it difficult to distinguish between sounds and symbols (letters). On the other hand, Spanish missionaries did not hesitate to deviate from their grammatical models by presenting newly discovered morphosyntactic categories and semantic distinctions, introducing terminology that eventually found its way into modern linguistic description. Their explanation of the distinction between inclusive and exclusive first person plural, which implies the inclusion, or respectively the exclusion of an addressee in language groups such as Quechuan and Aymaran (see, for instance, Cobo ([1653] 1890–1895), cited in Mannheim [1982]), is well known. Another example of a linguistic concept introduced by Spanish colonial grammarians working on languages such as Quechuan, Araucanian and Aymara is the notion of *transiciones* 'transitions', which refers to combined verbal endings specifying the grammatical person of both an agent and a direct or indirect object. A numbering system was assigned to the different combinations of grammatical person (1st acting on 2nd, 2nd acting on 1st, etc.), reflecting the way case systems are dealt with in the grammatical tradition of some European languages. The term "transition" was subsequently adopted by early representatives of the North American language-descriptive tradition, such as Peter Duponceau and Horatio Hale (Mackert 1999). It is still occasionally used in tradition-based grammars of indigenous American Indian languages produced in South American countries (e.g. in Argentina).

Jesuit missionaries were among the first to discover genetically related language groups in South America, such as the Tupi-Guaranían and Arawakan (Maipuran) language families, and to discuss controversial related issues, such as the possibility of a genetic link between Quechuan and Aymaran (Cobo [1653] 1890–1895, cited in Cerrón-Palomino 2000: 298). For a long time, the work of Spanish colonial grammarians was cast aside by modern linguists as unreliable because of their alleged adherence to "the Latin model". In addition to this being only partly true, the fact that these grammarians are not even worth a mention in contemporary historical accounts of language studies and linguistics is surprising, if not grossly unfair. The last two decades have witnessed a reappraisal and a renewed interest in the writings of Spanish colonial grammarians. They are now studied in their own right and no longer as incidental sources of consultation only (Suárez Roca 1992; Zimmerman 1997; Zwartjes 2000).

The most important work on a language spoken beyond the borders of the Spanish and Portuguese domains is without any doubt that of Raymond Breton on the language of the Island Caribs of the Lesser Antilles, as spoken on the island of Dominica in the 17th century (Breton [1665] 1999, [1666] 1900; Adam and Leclerc 1878). In the area of the Guyanas (protestant) Moravian missionaries, also known as Herrnhuters, contributed to the knowledge of the local languages. A grammar and a dictionary of the Arawak language by Theophilus Salomon Schumann were written between 1752 and 1763, and published in 1882 (van Baarle 1999).

The final years of the 18th century brought a resurgence of interest in the indigenous languages of South America, which was stimulated by improved relationships between the enlightened Bourbon administration in Madrid and other European rulers, including rulers of non-Catholic nations. An event of particular importance consisted in the efforts of the Russian empress, Catherine the Great, to collect data for a world-spanning project to document all languages of the globe. In order to meet Catherine's wish, the Spanish King ordered his representatives in the New World to collect word-lists and other materials on the indigenous languages spoken in their jurisdictions (Dedenbach-Salazar Sáenz 2006). Although much of the collected materials never reached Russia, the Empress's interest incited local researchers to search for available samples of language documentation after a long period of neglect. As a result, all sorts of documents of linguistic relevance found their way to Spain. Some of them would eventually contribute to overview works dealing with the languages of the world, such as Pallas ([1786–1789] 1977–1978), Yankievich de Mirievo (1790–1791) and Adelung and Vater (1806–1817).

3. The nineteenth century

The beginning of the 19th century roughly coincides with the opening up of the Spanish and Portuguese domains in South America to foreign travelers and researchers. At that time, European intelligentsia showed a great interest and curiosity towards everything the New World had to offer, including the native languages. European rulers financed and stimulated ambitious scientific expeditions in order to remedy the general lack of knowledge on a long neglected continent. Scientist-travelers such as Alexander von Humboldt (1769–1859), Karl Friedrich von Martius (1794–1868) and Alcide d'Orbigny (1802–1857) contributed immensely to the initial assessment of ethnic and linguistic diversity in South America.

For the scientific reflection on language and linguistic diversity, a special mention should go to Alexander von Humboldt's elder brother, the Prussian linguist and philosopher Wilhelm von Humboldt (1767–1835). Humboldt's aim was to develop a modern interpretation of the grammatical descriptions dedicated to New World languages that had been inherited from the colonial grammar tradition. To this end, he based himself, *inter alia*, on grammatical summaries provided (and

written) by Hervás y Panduro (Ringmacher and Tintemann, 2011). A recurrent element in Humboldtian thinking is the conviction that formally similar elements must be identical historically, if not synchronically, in spite of observed differences in meaning and function. For instance, von Humboldt attributed particular significance to the fact that in Araucanian the verbal suffix indicating a 1st person singular subject and the nominalizing suffix that marks the infinitive (both *-(ï)n*, as in *lefin* 'I ran' and 'to run') are formally identical. He also assigned a hierarchical ranking to languages depending on whether or not tense and aspect markers are located nearer to the verbal base than personal reference endings. Languages of the former type, such as Araucanian, Aymaran and Quechuan, are similar to Indo-European in this respect and, consequently, were accorded a higher position on a developmental scale than languages of the latter type, represented by the Tupí-Guaraní and other Amazonian languages. Although such assumptions have not produced a lasting effect, Humboldt's approach to the New World's languages represented a new way of thinking about language. It also constituted a radical departure from the traditional prescriptive discourse of the colonial grammarians, thus anticipating the birth of modern linguistics.

Nevertheless, Humboldt's considerations regarding the structure and essence of the Amerindian languages were exceptional for the first half of the 19th century. The curiosity of the scientific travelers who were rediscovering South America incited them to document large numbers of hitherto unknown languages with limited means and limited time. The collection of vocabulary lists for numerous languages that could offer a basis for a first tentative genetic classification became a priority and a common practice during the 19th century. It would continue well into the 20th century.

The marriage of a Habsburg princess with the heir to the Brazilian imperial throne made it possible for the Austrian emperor to send a scientific expedition to Brazil. This expedition, headed by Karl Friedrich von Martius and Johann Baptist von Spix, took place between 1817 and 1820. One of the members of the expedition, Johann Natterer, obtained permission to stay on in Brazil after the return of the expedition. He succeeded in collecting vocabulary lists with ethnographic data from 72 ethnic groups of the Amazonian region and adjacent areas (Kann 1989). For this purpose, Natterer used a standard wordlist developed by von Eschwege (1818), which had already been used for the collection of vocabulary from languages of eastern Brazil. Although the bulk of Natterer's material remains unpublished,[1] some of his lists were later included in another extensive collection of Brazilian materials published by von Martius (1867). Further data on indigenous languages from the interior of Brazil were collected in 1822–1829 during a Russian expedition headed by Georg Heinrich von Langsdorff. One of its members, the Frenchman Édouard Ménétriès collected extensive vocabularies of Purían and Botocudoan (Krenakan) languages spoken in eastern Brazil (Komissarov 1994). Fifty years later, during the Triple Alliance War with Paraguay, the Brazilian Viscount of

Taunay collected vocabulary lists from an Indian woman of the Guaná or Chané (Arawakan) nation, with whom he entertained a romantic relationship (Taunay 2000).

Ethnographic data and vocabulary lists of the languages spoken in the southern part of the former Spanish domain (especially southern Peru, Bolivia, Argentina, Chile, Paraguay and Uruguay) and in southern Brazil were collected by the French traveler and scientist Alcide d'Orbigny. He paid special attention to the languages spoken in the former missions of Moxos and Chiquitos in the eastern Bolivian lowlands, which had been abandoned by the Jesuits at the time of their removal (d'Orbigny 1839). In the Chiquitos area he recorded a unique situation of multilingualism, in which a number of smaller languages belonging to different families (Arawakan, Bororoan, Chapacuran, Tupí-Guaranían and Zamucoan) were in the process of being absorbed by the dominant Chiquitano language. Most of these languages have since then disappeared, although a few remnants of Paunaca (Arawakan) remain (Danielsen forthcoming).

The tradition of Quechuan studies was continued during the 19th century by the Swiss scholar Johann Jakob von Tschudi (1818–1889), by Sir Clements Markham from Great Britain (1830–1916) and by the German physician Ernst W. Middendorf (1830–1908). All three produced dictionaries, grammars and translations of the early 18th century Ollantay drama. Middendorf deserves a special mention for his thorough and elaborate studies of the Andean languages Quechua, Aymara, Mochica and Muisca (1890–1892). Middendorf's grammar of Cuzco Quechua was to become the most modern work on this language group until the second half of the 20th century. His grammar of Mochica contains much unique data of a highly complex language on its way to extinction, which had suffered radical transformations since it was described by Carrera in 1644. Following the habit of his time, Middendorf apparently combined the data brought together by Carrera with his own findings in a modernized presentation, occasionally referring to German dialects in order to explain phonetic detail. He also collected some short texts, which are the only non-religious textual data available for the Mochica language and which clearly show the phonological transformation that the language had undergone during the previous two and half centuries.

Between 1871 and 1903 several missionary grammars were made known through the series *Colección Lingüística Americana*, subsequently *Bibliothèque Linguistique Américaine* initiated by the Colombian Ezequiel Uricoechea. Uricoechea's work focused on languages of Colombia, such as Muisca and Páez, and was partly based on unpublished colonial manuscripts. In the same series, the Frenchman Lucien Adam published original or updated versions of colonial work, including manuscript grammars of Arawakan languages (Arawak, Guajiro, Moxo), Guaicuruan languages, Chiquitano, and Yuracaré.

In Chile, Rodolfo Lenz published a series of studies on the Araucanian language, its dialectology, its oral literature and its traditions (Lenz 1895–1897), thus

further contributing to the status of Araucanian or Mapuche as one of the most soundly documented indigenous languages in the Americas. Lenz also ventured some controversial ideas about the role of an alleged Mapuche substratum in the Chilean variety of Spanish (Lenz 1905–1910). These ideas met with ferocious opposition among purist Hispanist circles and continue to arouse heated debates to this day.

One of the greatest achievements of the 19th century in the field of South American languages was Thomas Bridges' dictionary of the Yahgan language, native to an archipelago situated south of the main island of Tierra del Fuego. Thomas Bridges (1842–1898), a protestant missionary and self-made linguist, spent much of his life around Tierra del Fuego. The manuscript of his monumental dictionary of this unique linguistic isolate, now on the verge of extinction, was published after many vicissitudes (Bridges 1933). The orthography and the presentation of Bridges' work merit a detained study themselves.

The end of the 19th century witnessed more expeditions into the Amazon, notably by Karl von den Steinen in the Xingu area, who wrote a grammatical study of Bakairi (Cariban) (1892). Paul Ehrenreich (1894) published data on several Brazilian languages, including Karajá (Macro-Jêan) and Kaiapó (Jêan). In Colombia, Guajiro (Arawakan), Kogui (Chibchan) and other languages spoken in the northeastern part of the country were studied by the missionary Rafael Celedón (1878, 1886).

In spite of remarkable exceptions such as Humboldt, Middendorf and Bridges, the 19th century was a period of stagnation as far as the study of the South American indigenous languages was concerned. It did not follow the pace of development of Indo-European language studies and those of other important language groups of the Old World. During the 19th century the colonial achievements in the description of grammars of American Indian grammar were hardly remembered, much less continued. However, towards the end of the 19th century, there was a first attempt at attaining a genetically-based classification of the South American languages in Daniel Brinton's work on the languages of the Americas (Brinton 1891). In the same period we may place Max Uhle's identification of the (typologically very heterogeneous) Chibchan language family (Uhle 1890) and his unpublished work on the Uru language (Uhle 1895). In Argentina, Bartolomé Mitre, author, military man and president of the nation in 1862–1868, brought together a large amount of information on the languages of southern South America and other parts of the New World. His work was published posthumously (Mitre 1909–1910). Another Argentinean scholar, Samuel Lafone Quevedo published extensively on the languages of his country, those of the Gran Chaco in particular (Lafone Quevedo 1893, 1895, 1896).

4. The first half of the 20th century (1900–1960)

In the 20th century, the study of the South American Indian languages had a slow start. Systematic in-depth research on the surviving languages continued to be neglected during the first decades, as it had been in the 19th century. A remarkable exception was the linguistic activity of Bavarian Capuchin missionaries in southern Chile. The grammar, dictionaries and anthologies of the Mapuche language produced by Félix de Augusta ([1903] 1990, [1916] 1966, [1916] 1991) and Ernesto de Moesbach (1963) reflect a relatively modern view of language. The Capuchins' work benefitted from the oral traditions recorded from survivors of the pacification war against the Araucanians, who had maintained their independence from Chile until 1882. Remarkable for the display of rhetoric and the use of extraordinarily complex sentences are the war memories of Pascual Coña, one of the Mapuche chiefs who had survived the pacification (Moesbach 1930; Coña 1984). Detailed information on the languages of Tierra del Fuego can be found in the work of the Austrian missionary Martin Gusinde (1926, 1931–1937).

In the meantime, advances were also made in the area of the Amazonian languages. The study of Kaxinawá (Panoan), written by the Brazilian Capistrano de Abreu ([1914] 1941), was one of the first language descriptions of a South American language of the 20th century. Marshall Cândido Rondon (1865–1958), who in 1910 founded the Brazilian agency for the protection of the Indians (SPI), published wordlists of indigenous languages from different areas of Brazil (Rondon and Barbosa de Faria 1948). Also in the service of the SPI, the ethnologist Curt Nimuendajú (1893–1945, born Curt Unckel), contacted many tribes, collecting numerous wordlists of little known languages and formulating intuitions about their genetic affiliation. One of Nimuendajú's most famous publications is that of the Apapokuva myths, recorded from a Chiripá Guaraní tribe that he was commissioned to relocate in the state of São Paulo (Nimuendajú 1914). Nimuendajú published one of the first structured language maps of Brazil (Nimuendajú [1944] 1981) and suggested several genetic links among native languages of Brazil, which would be confirmed later. Also, Guérios wrote several studies on little known Macro-Jêan languages of eastern Brazil (e.g. Guérios 1945).

Also in relation to the Amazonian area, the Dutchman Claudius de Goeje (1935) studied the historical relations of the languages of the Guyanas (Arawakan, Cariban and Warao), as well as Karirían in northeastern Brazil. His suggestion that Cariban and Karirían (a branch of Macro-Jêan) may be distantly related seems to receive additional support in recent research by Rodrigues (2000), who found coincidences connecting Cariban, Tupián and Macro-Jêan. The German ethnographer Theodor Koch-Grünberg (1872–1924) collected language data on his 1903–1905 and 1911–1913 expeditions to the Rio Negro and the area north of the Amazon (Koch-Grünberg 1909–1910, 1913, 1917, 1928). The British colonel P. H. Fawcett (1867–c. 1925) was one of the first to record language data from

Rondônia, later followed by the German anthropologist Emil Heinrich Snethlage (1897–1939) and the Swiss anthropologist Franz Caspar (1916–1977). Much of these data only exist in manuscript form.[2]

In the first decades of the 20th century all-round German Americanists such as Eduard Seler (1849–1922), Robert Lehmann-Nitsche (1872–1938) and Walter Lehmann (1878–1939) contributed substantially to the knowledge of small languages in the Andean region and the southern extreme of South America (e.g. Chonan languages, Uru-Chipayan, Mochica and Esmeraldeño). Unique unpublished data on languages now extinct collected by Lehmann (e.g. Uru of Ch'imu) can be found in the library of the Ibero-American Institute in Berlin. To this list we can add Gunter Tessmann's work on the peoples and languages of the Peruvian Amazon (Tessmann 1930). The Swedish ethnographer Erland Nordenskiöld (1877–1932) collected much valuable data (often unpublished) on a wide array of languages, including those of the Bolivian lowlands, genetically one of the most complex regions of South America (cf. Nordenskiöld 1924). Several contributions to our knowledge of small, presumably extinct languages of the Andean region can be credited to Rudolph R. Schuller (1873–1932).

In France, the study of South American languages in the first half of the century was dominated by Paul Rivet (1876–1958), the founder and long-standing director of the Musée de l'Homme in Paris. Rivet's contributions to the documentation of minor, often extinct languages and his talent in disclosing rare and little known sources, especially those relating to the northwestern part of South America (Landaburu 1996–9), were extremely important. The rich holdings of his linguistic archive in Paris have inspired many researchers. Rivet obtained most of his materials from historical sources or from people working in the field, such as the missionary Constant Tastevin, stationed in Tefé on the upper Amazon River in Brazil. Rivet's often extravagant views on the genetic classification of the South American languages fared less well. Among his more extreme proposals, which have not survived posterior critical scrutiny, are his attribution of the Yurumanguí isolate in Colombia to the North American Hokan family (Rivet 1942; cf. Poser 1992) and the supposition that some South American language families were genetically linked to languages of the Australian aborigines (Rivet 1925). A most important contribution is the monumental bibliography of the Aymara and Quechua languages compiled by Rivet and de Créqui-Montfort (1951–1956). Together with Čestmír Loukotka, a Czech linguist, Rivet also contributed to Meillet and Cohen's *Les Langues du Monde* (1952) with a classification of the South American languages.

Later on, Loukotka elaborated his own classification, comprising 117 language families or isolates, posthumously published (Loukotka 1968). Loukotka's classification is conservative and reliable in that few controversial groupings are included, it being organized according to geographical criteria. His catalogue-like work, which contains a rich bibliography as well as short samples of basic vocabulary for as many languages as turned out to be sufficiently documented, became immensely

popular as a browsing and discovery tool for intended comparative linguists. Nevertheless, its suitability for the detection of genetic links among languages is limited as it hardly goes beyond the possibility to recognize non-controversial affinities. In this way, Loukotka's work, which remained without rival for a long time, contributed to the prevailing opinion of extreme genetic diversity attributed to the languages of South America. A similar bibliographical catalogue but without wordlists is Tovar (1961) and, especially, its revised version (Tovar and Larrucea de Tovar 1984).

In Argentina, toponymy, in particular of the northwestern part of the country with its indigenous past, became an issue of local interest (Lafone Quevedo 1927), and the possibility of a linguistic contact between South America and Polynesia was addressed by Imbelloni and Palavecino (Imbelloni 1926). The Ecuadorian scholar Jacinto Jijón y Caamaño (1890–1950) studied scores of languages of Central America and the northwestern part of South America, as well as their mutual relations, in order to establish the connections that were relevant for the languages of his motherland (Jijón y Caamaño 1940–1945). He collected much toponymical data relating to extinct languages of the Ecuadorian highlands and coast in an effort to identify and reconstruct the original areas of the pre-Quechuan languages. Like Rivet, Jijón y Caamaño proposed many genetic connections that were never substantiated. However, his contributions to the toponymy of Ecuador and to the morphology of little known languages, such as the coastal Esmeraldeño, are valuable. More work on pre-Quechuan toponymy of Ecuador comes from Luis Paz y Miño (1936–1937, 1940–1942, 1961a, 1961b). An interesting overview of the languages of South America, with much unexpected detail, is Ibarra Grasso (1958). Jean Vellard (1950–1951) was one of the last researchers to collect reliable data on the Uru language of the Desaguadero basin in the Peruvian-Bolivian border area.

In Venezuela the Jirajaran and Timote-Cuica languages of the Andean region and its foothills were about to become extinct at the beginning of the 20th century. Local and foreign researchers managed to collect some data before the eventual disappearance of these languages (Oramas 1916; Jahn 1927). Rivet (1927) reorganized and discussed most of what was known about the Timote-Cuica family.

More classificatory overviews of the South American languages were provided by Mason (1950) and McQuown (1955). They were soon followed by the more ambitious efforts of Greenberg (1959, 1960a, 1960b) and Swadesh (1959, 1962). Whereas the two former classifications were mainly inventories with occasional proposals of genetic grouping, the latter two constitute an attempt at accommodating all the South American languages in a complex framework of groups and subgroups. However, Greenberg's Indo-European-style tree concept contrasts with Swadesh's network approach. None of these classifications was accompanied by the empirical evidence an independent verification would require. As far as Greenberg's proposal is concerned, this shortcoming has partly been addressed in Greenberg (1987), where the data underlying his (revised) classification are presented.

5. The Summer Institute of Linguistics

The Summer Institute of Linguistics was founded in 1934 by William Cameron Townsend as a sister organization to Wycliffe Bible Translators. Its primary aim was to document the languages of the world, regardless of their official status and number of speakers, so as to facilitate community work and the production of Bible texts in native languages. For this purpose, linguists associated with the Summer Institute of Linguistics, in particular Kenneth Pike (1943, 1947) and Eugene Nida (1943), developed phonetic, phonological and morphological methods on the basis of American Indian field data that were used in language-descriptive work worldwide. The Summer Institute of Linguistics, presently known as SIL International and, in Spanish speaking countries, as *Instituto Lingüístico de Verano* or *ILV*, has founded a tradition of linguistic research that reaches the most remote indigenous language communities in Latin America. Although the activities of SIL started in Guatemala and then Mexico, its work became increasingly important in South America as well after mid century. SIL deployed its activities in all South American countries with a substantial indigenous population, except for Argentina, Paraguay and Venezuela, and managed to build up a large archive of unique language data which is accessible to linguists of all kind. The Brazilian, Colombian, Ecuadorian and Peruvian branches of SIL became particularly important, the latter three with jungle bases at Lomalinda (Meta), Limoncocha and Yarinacocha, respectively. Initially, descriptive work by SIL members was cast in a rather impenetrable formalized morphosyntactic framework, known as Tagmemics (see, for instance, Elson 1963; Matteson 1967), which was gradually replaced by more function-oriented descriptive models. Overall grammatical studies by SIL members are Matteson on Piro (1965), Wiesemann on Kaingang (1972), Allin on Resígaro (1976), Derbyshire on Hixkaryana (1979), Weber on Huallaga Quechua (1989) and several studies found in Derbyshire and Pullum (1986–1998).

A great advantage of the activity of SIL is its extensiveness with regard to the number of languages treated. In Peru practically all the jungle languages have been studied, a fact that is reflected in the rich materials published in the *Serie Lingüística Peruana*, which includes dictionaries, grammars, primers, etc. For quite a few languages (e.g. Amuesha, Chamicuro, Muniche, Resígaro, etc.), SIL materials provide the main available sources. Until the 1990s this probably held true for most of the indigenous languages in South America. SIL language descriptions differ widely in their size and degree of sophistication. Along with highly complex grammars and linguistic essays, other materials are more rudimentary. An important achievement of the SIL is the *Ethnologue*, a periodically updated publication, available both in book form and online, that contains basic information on the languages of the world including a division on South America. The editors of the *Ethnologue* have played a central role in the development of the ISO coding system for the identification of individual languages, which is now in use among non-SIL linguists as well.

In some countries, such as Peru, SIL as an institution has contributed to the national educational system directed towards the Amazonian language communities, with efforts to develop bilingual education programs. SIL members also have played a prominent role in discussions about orthographic choices to be made in processes of spelling standardization (see, for instance, Weber 1994).

6. Dialect surveys in the Andes and the first grammatical descriptions

Before the 1960s, modern linguistic descriptions of South American indigenous languages were practically non-existent. The availability of descriptive work such as that of Capistrano de Abreu (see above) was highly exceptional. For some of the major Andean languages one had to have recourse to pre-modern, traditional grammars, some of them from the beginning of the colonial period, or work directly based on such colonial grammars. The precarious situation of the numerous surviving lowland languages with their dwindling speaker numbers, most of them almost completely unknown, made it seem an impossible task to record them all, and it appeared that the unique South American language diversity was bound to disappear before a full-scale documentation had even begun.

Nevertheless, interest in and curiosity for the contemporary spoken varieties of the South American languages were growing, also among non-missionary linguists. One of the first American Indian language groups to receive systematic and focused attention on a modern linguistic basis was Quechuan, in particular, its Peruvian varieties. Until the 1960s, a historical myth assigning to the Cuzco variety of Quechuan the status of the imperial "Inca" language, rooted in the former capital of the Inca empire (Cuzco), was seldom questioned. Under this assumption the complex dialect situation of Quechuan was interpreted as a sign of linguistic decay, a viewpoint firmly defended by the Quechua Language Academy in Cuzco (see below). In the early 1960s, dialect surveys conducted by Gary Parker (1963) and Alfredo Torero (1964) brought to light a fundamental internal differentiation within the Quechuan language complex, already foreshadowed in an article by Ferrario (1956). Such differences could not be explained within the timeframe of the four centuries following the conquest and indicated a deeply rooted diversification of ancient date. These findings underscored the urgency of studying the numerous local varieties of Quechuan ("dialects") as languages in their own right, an activity which was to continue until well into the 1980s. Some examples of descriptions of Quechuan languages are Adelaar (1977, 1987), Cerrón-Palomino (1976a), Cusihuamán (1976a), Cole (1982), Lastra (1968), Parker (1969, 1976), Taylor (1975, 1982) and Weber (1989). Additional work with a strongly generative focus is found in Muysken (1977) and Lefebvre and Muysken (1988). The Quechuan variety of Santiago del Estero in Argentina was addressed by a separate research tradition in early work by Bravo (1956) and more recent publications by Alderetes

(2001) and, posthumously, in the work of Nardi (2002). Also from the 1960s on, Aymara and its sister language Jaqaru became the object of detailed descriptions (Hardman 1966, 1983, 2000; Hardman et al. 1974, 1988; Porterie-Gutiérrez 1988). The relatively early date of most descriptive work on the major Andean languages necessarily implies that it was not yet heavily influenced by the advances in functional and typological linguistics that characterize most present-day descriptions of South American languages.

The focus on language description relating to the central Andean region logically led to the publication of a number of synthetic works that had the objective of organizing and evaluating dispersed information on different linguistic varieties and interpreting newly obtained data in an archaeological and a historical context. Torero (1974) studies the Quechuan language group and its many varieties in a social and historical context. Torero (2002) is a synthesis of earlier publications supplemented with the results of new research, especially on the minor languages of the Andean area. Cerrón-Palomino (1987) and Cerrón-Palomino (2000) are dedicated to the linguistics of the Quechuan and Aymaran language families, respectively. Dialect variation within the Aymara language was studied by Briggs (1976, 1993). Adelaar with Muysken (2004) is an overview of the Andean languages covering the western part of South America from north to south. The rather underrepresented field of area linguistics was addressed in Büttner (1983), and as far as the northern part of the Andean region is concerned in Constenla Umaña (1991).

7. Grammatical description and historical-comparative research towards the end of the 20th century

Grammatical descriptions of languages not belonging to the central Andean region that date from the period before 1990 (beside publications by SIL linguists) are Mosonyi (1966) on Yaruro, Gregores and Suárez (1967) on Paraguayan Guaraní, Lapenda (1968) on Fulniô, Hoff (1968) on Carib, Lizot (1970, 1975) and Migliazza (1972) on Yanomamö, Viñas Urquiza (1974) and Tovar (1980) on Mataco (Wichí), Klein (1978) on Toba, Olza and Jusayú (1978) on Guajiro, Landaburu (1979) on Andoke, Seelwische (1975, 1980, 1990) on Nivaclé, Grenand (1980, 1989) on Wayãpi, Gómez-Imbert on Tatuyo (1982), Carson (1982) on Makuxi, Helberg (1984) on Amarakaeri, Dietrich (1986) on Chiriguano, Clairis (1987) on Kawesqar, Patte (1989) on Paraujano, and van Baarle et al. (1989) on Lokono (Surinam Arawak). Languages of the Paraguayan Gran Chaco are addressed in a series of publications by Sušnik (1958, 1977, 1986–1987).

In Colombia a first overview of the complex language situation was provided by Ortiz (1965). In the 1980s a center for the education and training of local linguists (CCELA) was established at the Universidad de Los Andes in Bogotá with

the support and coaching of the French research organization CNRS. This center specialized in the description and documentation of the indigenous languages of Colombia, and has generated much research and a great number of publications since 1987. González de Pérez and Rodríguez de Montes (2000) provide a monumental overview of all the previous research on the languages of Colombia, including work by CCELA, SIL and the Caro y Cuervo Institute in Bogotá.

Linguists from Argentina have long been actively involved in the study and documentation of the indigenous languages of that country and its neighbors. The main center of research is the Faculty of Letters of the University of Buenos Aires, which has organized several international meetings in this field. Before 1990, Argentinian linguists produced grammars of Selknam (Najlis 1973), Chorote (Gerzenstein 1978–1979) and Gününa Yajich (Casimiquela 1983).

In the meantime, a number of state-of-the-art books concerning large areas cleared the way for a systematic treatment of the languages of South America in general or of specific areas, in particular, the Amazonian region. Among the first were Key (1979), Pottier (1983), Klein and Stark (1985) and Migliazza and Campbell (1988). The essays brought together in Payne (1990) were among the first to highlight the typological peculiarities of the Amazonian languages, which would receive more and more attention during the following years. A small, but influential study focusing on the languages of Brazil is Rodrigues (1986). A more recent overview article of the South American language situation is Kaufman (1994). Campbell (1997) is remarkable for its focus on historical linguistics and for the fact that it offers a pan-American perspective. Dixon and Aikhenvald (1999) offer an overview of the languages of the Amazonian region. An overview of the western, Pre-Andine sector of the Amazonian languages can also be found in Adelaar with Muysken (2004). A useful compilation of articles with an excellent set of maps of the situation in each of the countries with an Amazonian sector can be found in Queixalós and Renault-Lescure (2000).

The four last decades of the twentieth century have not brought a decisive breakthrough in the overall genetic classification of the South American languages. Kaufman's (1990) comprehensive classification still contains as many different families as Loukotka's of 1968, although a grouping of families is suggested for some areas (e.g. Macro-Jêan, see below). It should be observed, however, that the classifications of Loukotka and Kaufman do not coincide, and that some language groups that were unduly combined in the former (in paticular, within the proposed Arawakan and Chibchan groupings) are recognized as separate units in the latter. Suárez's (1974) classification proposes a moderate reduction of the number of genetic units comprised in Loukotka, but it does not offer any systematic presentation of arguments. The most radical proposal is Greenberg's (1987), which groups all the South American and Mesoamerican languages into a single phylum, Amerind, together with a majority of the North American languages. In contrast with Greenberg's earlier classifications, the book *Language in the Ameri-*

cas (Greenberg 1987) presents a selection of the database underlying his proposals. Not only are all South American languages considered related, they are also subject to sub-grouping. Greenberg's subgroups have been met with skepticism for a number of reasons, including the underanalyzed nature of the presented data, the perpetuation of old misunderstandings (especially those generated by Rivet), and the fact that recent findings may suggest entirely different groupings. At least in some cases, however, Greenberg's contribution seems to be valuable, namely, when he presents evidence for the inclusion of Chiquitano and Jabutían in Macro-Jêan (cf. Adelaar 2008; Ribeiro and van der Voort 2010). One of the proposals that are in conflict with Greenberg's classification is Rodrigues's view that Cariban and Tupían may be related (Rodrigues 1985). It lies at the basis of a very promising development, which also involves the Macro-Jêan hypothesis (Rodrigues 2000). The awareness that a Macro-Jêan grouping comprising Jêan itself and several small families in Brazil may be a valid idea slowly gained ground during the last decades of the 20th century (Davis 1968; Rodrigues 1986; Greenberg 1987; Kaufman 1990). Another important development is Constenla's (1981) deconstruction of the unsubstantiated and confusing macro-Chibchan hypothesis advocated by Rivet, Jijon y Caamaño and Greenberg. More limited proposals for genetic linkings can be found in Aschmann (1993) for Boran and Huitotoan, Curnow and Liddicoat (1998) for the inclusion of Guambiano in Barbacoan, and Adelaar (2000) for Harakmbut and Katukinan.

8. Official recognition of indigenous languages and the rise of normative grammar

The normative approach to the indigenous languages of South America has a long history. Notwithstanding a few dissident views, the Spanish and Portuguese authorities were not particularly keen to impose their own languages on the Indian population until the second half of the 18th century. The language policy adopted by colonial administrators and church representatives was to select so-called *lenguas generales* or *línguas gerais* ('general languages') in order to bridge the gap between a multitude of ethnic groups speaking different languages and in order to facilitate communication between these groups and the Spaniards or Portuguese. Logically, such a policy favored the use of languages that already had a significant distribution in pre-conquest times: a variety of Quechuan and Aymara in the central Andean highlands, Araucanian in Chile, Muisca in New Granada (Colombia), Guaraní in the basins of the Paraguay and Paraná rivers, and Tupí or Tupinambá in the Brazilian coastal region extending from the present-day state of São Paulo all the way up to the mouth and lower course of the Amazon river. In addition, languages of a more limited reach, such as Siona, Sáliva, Chiquitano and Moxo, were selected in order to unify particular missionary provinces. In the case of languages

spoken by millions of individuals with substantial internal differences the need for normalization and unification became an issue at an early stage of the colonial enterprise (see Section 2 for the case of Quechuan).

The fate of the Guaraní language in Paraguay was closely connected with the successful efforts of the Jesuits to establish autonomous safe areas (*reducciones*) for the indigenous population during the 17th and 18th centuries. Although the indigenous communities were left in a state of abandonment after the eviction of the Jesuits in 1768, Guaraní survived as the dominant language of the Paraguayan countryside and in the adjacent provinces of Corrientes and Misiones (now part of Argentina). The awareness of having a distinct linguistic identity gained momentum during the nationalistic upswing that accompanied two wars in which the Paraguayans were pitted against their neighbors (the Triple Alianza War of 1864–1870 and the Gran Chaco War of 1932–1935). The Guaraní language became a symbol of the Paraguayan national identity to both Indians and non-Indians. In the Constitution of 1962, Guaraní was recognized as one of the national languages of Paraguay, while the 1992 Constitution made it an official language on an equal footing with Spanish (Meliá 1992). Since spoken Paraguayan Guaraní is heavily influenced by Spanish, the need for normalization and a concern for linguistic purism gained importance during the second half of the 20th century. These trends are reflected in the work of Antonio Guasch, whose grammar (*El Idioma Guaraní*) and dictionary of the Guaraní language have been the object of several consecutive editions (Guasch 1956, 1981). Whereas Guasch's dictionary introduces Guaraní terms for neologisms such as "astronaut" and "ballpoint pen", his grammar presents a full system of decimal number terms, which partly consist of artificially invented items completed with body part terms. (Originally, Guaraní had only four true numerals.) Invented terms also figure on official Paraguayan banknotes (Meliá 1992: 174.) A problem, however, is that alternative sets of invented terms are in use for the purpose of denoting the higher numbers. The Decoud Larrosa system used on the banknotes and in education is different from that of Guasch (Krivoshein de Canese 1983: 52). Recent publications of CEPAG (Centro de Estudios Paraguayos "Antonio Guasch"), under the responsibility of Bartomeu Meliá, present a more realistic level of purism than Guasch's publications did.

In Peru efforts towards a standardization of the Quechuan language group are often associated with the *Academia Mayor de la Lengua Quechua*, established in the ancient Inca capital Cuzco. This academy, established in 1958 as *Academia Peruana de la Lengua Quechua*, obtained its present denomination in 1990, and has its roots in the cultural *indigenista* movement that flourished in southern Peru in the first half of the 20th century (Marr 1999). Its protagonists have always been *mestizo* intellectuals from the Cuzco region with a strong predilection for the local form of Quechua and its Inca roots. The latter is frequently hailed as the "imperial" variety of Quechua in contradistinction with other dialects that are considered inferior or "degenerate". The *Academia* owes much of its clout to the fact

that it has been officially entitled to establish the correct form of Quechua to be used in the Peruvian Constitution. Its main feats of arms are a much debated Quechua-Spanish Spanish-Quechua dictionary (Academia Mayor de la Lengua Quechua 2005) and a lasting influence on the Quechua spelling habits used in Cuzco and its environs. The *Academia Mayor de la Lengua Quechua* copies European language academies (especially that of Spain) in its claims to power of decision and infallibility. The total rejection of any valorization of the numerous Quechuan varieties spoken in Peru, other than Cuzco Quechua, and the dogmatic identification of the origins of Quechua with the rise of Inca power in Cuzco put the *Academia Mayor de la Lengua Quechua* on a collision course with Peruvian and foreign university linguists that place the origin of Quechuan in the central coastal and Andean region of Peru at a date that precedes the Inca empire by more than a millennium.

In 1975, the then military government of Peru issued a decree that made Quechua the second official language of the country. All of a sudden, the issue of language normalization became urgent. Linguists and educators had been divided on whether to introduce a unified type of Quechua as a standard language, or to preserve local varieties. The dialectological research of the 1960s and 1970s, summarized in Torero (1974), had clearly shown that the differences between regional varieties could be substantial, and that in some areas the introduction of one specific variety of Quechuan might be experienced as the imposition of yet another foreign language. As a result, a compromise was elaborated by subdividing Peruvian Quechuan into six different languages, each represented by a specific standard "dialect" or dialect complex. Within all but two of these six selected "languages", the dialect differences were so great that many speakers could hardly be expected to identify with them. However, the selection of the six language norms set about a fair amount of linguistic activity as the Peruvian government commissioned sets of grammars and dictionaries for each of them. This series of grammars and dictionaries, coordinated by Alberto Escobar, was written and published in a short lapse of time and became very influential (Cerrón-Palomino 1976a, 1976b; Coombs, Coombs and Weber 1976; Cusihuaman 1976a, 1976b; Quesada 1976a, 1976b; Park, Weber and Cenepo 1976; Parker 1976; Parker and Chávez 1976; Soto Ruíz 1976a, 176b). At least one of the aforementioned descriptions, Cerrón-Palomino's grammar and dictionary of the Junín-Huanca norm, represents a reconstructed proto-variety intended to serve as a norm for three descendant dialect varieties (Jauja, Concepción and Huanca) and their sub-varieties. For instance, the presentation contains a phoneme symbol *q*, reconstructible as a uvular stop, which has suffered distinct developments in the descendant dialect varieties. Norm-inspired choices, often based on previous stages of development of the language varieties to be codified or using complementary resources from different dialects, have become a recurrent phenomenon in much of the subsequent literature on Andean languages. They form part of an ongoing effort to handle linguistic diversity in

the face of an all-dominant and fully normalized language of communication (Spanish).

Throughout the 1980s and 1990s, spelling discussions dominated the debate on language normalization in the Andean countries. Conflicting spelling habits separated speakers of Ecuadorian Quechuan from those of Bolivian and Peruvian varieties, a contradiction that was only lifted in 1998 (Howard 2007). A more acerbic issue was the discussion about the number of vowel symbols to be used for Quechuan. Whereas Peruvian university linguists advocated the use of three vowels (*a*, *i*, *u*), SIL and the *Academia Mayor de la Lengua Quechua* favored the use of five vowels (*a, e*, *i*, *o*, *u*), keeping the orthography of Quechuan dialect varieties closer to that of Spanish.

The issue underlying this controversy is that Quechuan and Aymaran languages originally distinguish only three vowel phonemes (*a*, *i*, *u*). In the neighborhood of an uvular consonant, represented by the symbol *q* in most modern orthographies, the high vowels *i* and *u* are automatically lowered to mid position, becoming [ɐ] ~ [ɛ] and [o] ~ [ɔ], respectively. In Quechuan varieties such as Ecuadorian Quechuan and the variety spoken in the province of Huancayo in central Peru, this lowering became undone as the uvular articulation was lost, thus showing the strength of the underlying trivocalic system. In present-day Quechuan varieties, the non-conditioned mid vowels *e* and *o* are frequently found in borrowings from Spanish. Most of these varieties also feature a few instances of mid vowels that are not entirely predictable by the environment in which they occur (at morpheme boundaries and in onomatopoeic expressions, for instance). An additional cultural factor favoring a pronunciaton-based orthography with five vowels may be that its defenders consider a three-vowel system to be inferior to the five-vowel system associated with the dominant Spanish language.

Divergent orthographic choices are especially noticeable between the different languages spoken in the Andean region. Whereas Brazilian and Colombian linguists favor the use of the International Phonetic Alphabet, ethnic groups located in or near the Andean region tend to develop their own spellings, which can easily develop into a sort of identity marker for the language community in question. Mainstream orthographies for Quechuan and Aymaran may even differ on points where the languages show identical behavior. Smaller language communities with idiosyncratic spelling conventions are the Bora, the Cofán, the Jaqaru and the Mosetén. Such spellings are also used in linguistic literature at some cost for cross-linguistic transparency.

Linguistic purism and language engineering have become everyday phenomena within many South American indigenous speech communities. Samples of folk literature and educational texts published in Quechuan and Aymaran languages generally have a much lower incidence of Spanish loans than tends to be the case in spoken conversation, showing that such loans are consciously avoided. At a meeting entitled *As línguas indígenas da Amazônia na ciência e nas sociedades*

('The indigenous languages of Amazonia in science and in the societies'), organized at the Museu Paraense Emílio Goeldi in Belém in March 1996 (cf. Queixalós and Renault Lescure 2000), a representative of the Shuar nation from Ecuador reported on the efforts of his community to expand the native vocabulary in regular sessions dedicated to the selection of new words, such as names for numbers, weekdays and months. In this way, a newly coined Shuar term for "eight" was chosen that was identical to the word for "ant" because of the similarity in appearance between the insect and the Arabic symbol representing that number. (For a case study of language revitalization among the Shuar see Grenoble and Whaley [2006: 78–86].) Bora communities in the border area of Colombia and Peru have been reported to discuss the acceptability of specific nominal classifiers in their language in community meetings (Thiesen and Weber, forthcoming).

9. Bilingual education programs of the 1980s and their side-effects

Since the 1960s, there have been efforts to introduce South American indigenous languages in formal education by the development of teaching materials as well as bilingual programs. Such activities have had a lasting influence on linguistic studies related to the Andean region in particular. One of the first experimental programs aiming to incorporate a variety of Quechuan in bilingual education operated in Quinua near Ayacucho (Peru) between 1964 and 1968 (Zúñiga and Carrasco 1978). The recognition of Quechua as an official language in Peru did not lead to a lasting intervention of the state in educational matters involving the indigenous languages. Instead, internationally financed programs took over the initiative, in particular after 1980. An experimental project of bilingual education, known as *Proyecto Experimental de Educación Bilingüe de Puno* (*PEEB-P*), co-financed by the German Society for Technical Cooperation (*GTZ*), was established in Puno (Peru) and operated between 1978 and 1990. This project was aimed at the Aymara and Puno Quechua speaking communities of the Altiplano. Its influence was significant both in Peru and Bolivia, and it stimulated all sorts of publication activities, including dictionaries, collections of folk literature, teaching materials and text books. It also brought research opportunities for local and foreign linguists and enabled native speakers to write down and publish their traditions. In a sociolinguistic evaluation of this project Hornberger (1998) reports on speaker attitudes that limit the effect of bilingual schooling upon language maintenance in the Andes. External political tensions affected the *PEEB* project in its final stage. However, a similar project initiated in Ecuador in 1985, called *Programa de Educación Bilingüe Intercultural* (*PEBI*), appears to have a lasting effect on language maintenance in the Ecuadorian highlands, because it has the support of a powerful indigenous organization, the *Confederación de Nacionalidades Indígenas del Ecuador* (*CONAIE*). Like PEEB, PEBI has produced a considerable spin-off in

publications. The addition of the epithet "Intercultural" emphasizes the bidirectional character of bilingual education, which is no longer envisioned in the present societal context as a means to transfer knowledge from one culture to another. The situation of language contact involving Spanish and Quechua in the Ecuadorian highlands has been studied by Büttner (1993) and by Haboud (1998). In the southern part of the Andean region a new internationally financed program has taken the lead since 1996, *Programa de Formación en Educación Intercultural Bilingüe para los Países Andinos* (*PROEIB Andes*). *PROEIB Andes* has its headquarters in Cochabamba, Bolivia, and has become very influential through its conferences, the courses it offers to indigenous educators and its well-informed online bulletin. Although mainly focusing on Bolivia, PROEIB Andes also offers courses to indigenous people from other countries, for instance, to Mapuche educators from Chile.

10. Linguistic typology and endangered languages: The breakthrough of the 1990s

About 1990 the state of documentation of the indigenous languages of South America still left much to be desired. In-depth grammars of individual languages were scarce, and there were few indications that an improvement of the situation was forthcoming. Surprisingly but fortunately, research activity focusing on the indigenous languages of South America proliferated during the 1990s and soon attained an unprecedented level of volume and success. At present (2011) the amount of accessible data and descriptive materials that are available to the linguistic community is rich and varied. Much of it has been published or is in the process of being published by renowned editors. There are but few languages left that remain totally untouched by research. Most important of all, the interaction and communication between linguists working on different languages in different parts of South America has improved dramatically.

Two developments contributed in particular to the success of South American Indian linguistics in the 1990s and 2000s. They are the increased interest for language typology and the rise of the endangered languages movement. The search for language types benefits from an ample display of data, in which all possible features of language must be represented, including the most exotic ones (see Campbell, this volume). It stimulates a focused attention on language diversity, rather than on efforts to find a common denominator valid for all languages, as had been the concern of earlier linguistic currents. The expansion of typological research depends on the kind of new data that can only be obtained in the field or in archives from poorly documented languages representing unfamiliar language types. South America with its extreme typological and genetic diversity and its unique features, such as nasal contours, Amazonian classifiers, evidentials and object-initial constituent order, turned out to be an ideal terrain for field research, able

to satisfy the demand for undiscovered data from the international community of language typologists. As a result, South American languages, virtually unknown a few decades ago, are now well represented in linguistic literature. Many language typologists participate in the activities of the *Association for Linguistic Typology* (*ALT*). A center for typological research that has been particularly active in the field of South American linguistics is the *Research Center of Linguistic Typology* (*RCLT*), headed by R. M. W. Dixon and A. Y. Aikhenvald (until 2008), at La Trobe University, Melbourne.

The endangered languages movement started in the early 1990s through an initiative of concerned linguists alarmed by the ever increasing extinction rate of the world's languages. Areas of extreme linguistic diversity, such as South America, where all indigenous languages are endangered or potentially endangered, are disproportionately affected by this process (see Crevels, this volume). As a result of the massive extinction of languages, the science of linguistics is losing an essential and irreplaceable part of its empirical basis, not to mention the historical and cultural riches that are lost with the death of each undocumented language. For small societies, as well as for the outside world, language is also an important ethnic identity marker, whose disappearance directly affects the chances of recognition and survival of the speaker group.

In 1992, the endangered languages problem was discussed in a plenary forum on the occasion of the 15th *International Congress of Linguists* in Quebec City. During a preparatory meeting at the UNESCO headquarters in Paris, two unclassified South American languages were singled out as priority items for documentary field research. One of these languages was the highly endangered and practically undocumented Koaiá language isolate, spoken in a mixed community in the state of Rondônia, Brazil, together with Aikaná or Huari (unclassified), and Latundê (Nambikwaran). Subsequently, Koaiá (now renamed Kwaza), a language of c. 25 speakers, most of whom are also fluent in Aikaná and Portuguese, became the subject of a project resulting in one of the most detailed linguistic descriptions of any South American language to date (van der Voort 2004). In the following years, UNESCO supported more initiatives such as the publication of an *Atlas of the World's Languages in Danger of Disappearing* (Wurm 1996). The latest edition of this work, to which linguists from South America and other parts of the world contributed, includes both a version on paper (Moseley 2010) and an interactive online version (Moseley 2009).[3] Another initiative of UNESCO was the establishment at Tokyo University of an *International Clearing House for Endangered Languages* (*ICHEL*), which harbored an online *Red Book of Endangered Languages* with situation reports on endangered South American languages collected by Mily Crevels (operational between 1995 and 2009). Furthermore, UNESCO granted the oral traditions and language of the nearly extinct Záparo of the Ecuadorian and Peruvian Amazon the status of "*Masterpiece of the Oral and Immaterial Patrimony of Humanity*" in 2001.

Since the first initiatives of the endangered languages movement several specialized publications that dedicate substantial chapters to the South American situation have appeared (Robins and Uhlenbeck 1991; Grenoble and Whaley 1998; Queixalós and Renault-Lescure 2000; Brenzinger 2007). More importantly, several international funding agencies have initiated funding programs supporting the description and documentation of endangered languages. Research on South American native languages has benefited considerably from these programs. The two most influential international programs are that of the *Volkswagen Foundation* in Hanover, Germany, and that of the *Hans Rausing Endangered Languages Project* hosted by the *School of African and Oriental Studies* (*SOAS*) in London. The Volkswagen Foundation program is notable for its emphasis on integral language documentation, including both linguistic and extra-linguistics aspects of language use. It subsidizes the *Documentation of Endangered Languages* program (*DoBeS*) hosted by the Max Planck Institute in Nijmegen (Netherlands), which provides advanced storage facilities for documentary language data generated by the field projects of the Volkswagen Foundation (including several projects on languages of Argentina, Bolivia, and Brazil). In addition, funding agencies operating at a national level have also initiated endangered languages programs that benefit descriptive and documentary research in South America (for instance, the *National Science Foundation* (*NSF*) and the *National Endowment for the Humanities* (*NEH*) in the USA, the *Netherlands Organisation for Scientific Research* (*NWO*) in the Netherlands). Research on endangered languages of South America is actively supported by many institutions, such as *Centre National de la Recherche Scientifique* (*CNRS*) in France, the University of Oregon at Eugene, the University of Texas at Austin, the University of California at Santa Barbara, and the *Center for American Indian Languages* (*CAIL*) at the University of Utah. Several specialized journals, in particular, *International Journal of American Linguistics* (Chicago) and *Anthropological Linguistics* (Bloomington) in the USA, as well as *LIAMES* (Campinas) and *Revista Brasileira de Lingüística Antropológica* (Brasília) in Brazil, *Amerindia* (Paris) in France and *UniverSoS* (Valencia) in Spain, regularly publish the results of research conducted on the indigenous languages of South America. The online Newsletter of the *Society for the Study of Indigenous Languages of the Americas* (*SSILA*) provides information on ongoing activities and new publications.

The greatest surprise, without any doubt, is the rise of Amerindian linguistics in Brazil, which has turned that country from one of the linguistically least studied places in the Americas to one of the most dynamic areas of research in just a few years. In the 1980s, there were few universities or research centers in Brazil that paid attention to the indigenous languages, most of which were undescribed and dying out. Only one university, that of Campinas (*UNICAMP*) in the state of São Paulo, had a chair for indigenous languages. In other universities, students often wrote preliminary papers on the phonology of American Indian languages but were not encouraged to enter the field beyond that. At present, American Indian lin-

guistics in Brazil is flourishing, where young local linguists, as well as foreign researchers, co-operate in a highly productive symbiosis. More than ten institutions participate actively in research activities directed at the indigenous languages of the country, among which the *Museu Paraense Emílio Goeldi* in Belém (where the linguistics program is headed by Denny Moore), the University of Brasília, the University of Río de Janeiro, the University of Pernambuco in Recife and the University of Campinas must be mentioned in particular. The surviving Brazilian languages are being described and documented systematically with only few exceptions. Also with respect to Brazil, the historical-comparative approach to the study of indigenous languages has been more successful than elsewhere. The appreciation of the indigenous languages, both from the side of the speakers and from the side of the national society and the outside world in general, has improved over the last two decades. Programs for language maintenance and revitalization are arising among many native groups in the country. In recent years several important studies of Brazilian languages have been published: Taylor on Baniwa (1991); Aikhenvald (1995) on Baré; Everett and Kern (1997) on Wari' (Pacaas Novos); Ramirez (1997) on Tukano; Seki (2000) on Kamaiurá; Aikhenvald (2003) on Tariana; Cabral and Rodrigues (2003) on Asuriní do Tocantins; Dixon (2004) on Jarawara; van der Voort (2004) on Kwaza; Ferreira (2005) on Parkatêjê; and Epps on Hup (2008). Area typology and language contact in a complex multilingual area in northwestern Brazil is treated in Aikhenvald (2002). Several books deal with theoretical issues related to Brazilian languages (Everett 1991; Wetzels 1995). Among the many dissertations on Brazilian languages that have been defended in recent years we may mention Facó Soares (1992) on Tikuna; Ramirez (1994) on Yanomamï; Reis Rodrigues (1995) on Xipaya; Sandalo (1995) on Kadiwéu; Gabas (1999) on Karo; Guirardello on Trumai (1999); Storto (1999) on Karitiana; Meira (1999) on Tiriyó; Pacheco (2001) on Ikpeng; Facundes (2000) on Apurinã; Vilacy (2001) on Mekens; Dourado (2001) on Panará; Angenot de Lima (2002) on Moré; Stenzel (2004) on Wanano; Bacelar (2004) on Kanoê; Braga (2005) on Makurap; Silva Julião (2005) on Anambe; Sousa Cruz (2005) on Ingarikó; Tavares (2005) on Wayana; Dienst (2006) on Culina; dos Anjos (2011) on Katukina and da Cruz (2011) on Nheengatu. In addition, two projects headed by W. L. Wetzels at the Free University of Amsterdam that are dedicated to the Nambikwara and Maku-Puinave language families have generated several descriptive studies: Telles (2002) on Latundê; Antunes (2004) on Sabanê, Andrade Martins (2004) on Dâw; and Eberhard (2009) on Mamaindê.

Another South American country that has received more than average attention from descriptive linguists in recent years is Bolivia. A meticulous survey of the distribution of the indigenous languages in Bolivia with highly specific maps is Albó (1995). A specialized program for the languages of the Bolivian lowlands headed by P. C. Muysken of the University of Nijmegen has generated outstanding grammars of Movima (Haude 2006), Yuracaré (van Gijn 2006) and Baure (Daniel-

sen 2007). Detailed grammars have appeared of Mosetén (Sakel 2004) and Cavineña (Guillaume 2008). A comparative study of the available sources on the Uru or Uchumataqu language of Iruito in Bolivia can be found in Hannß (2008). Novelties in relation to the highland languages are Cerrón-Palomino's books on the Chipaya language of the Bolivian Altiplano (Cerrón-Palomino 2006) and on Andean onomastics (Cerrón-Palomino 2008). Several in-depth studies of Quechuan (Hintz 2007, Hintz 2008) and Aymaran varieties (Coler-Thayer 2010), as well as new approaches to reconstructive work (Heggarty 2005), indicate a renewed interest in Andean linguistics.

For the non-Andean languages of Peru and Ecuador several important contributions should be mentioned: Cabral (1995) on Cocama; Gnerre (1999) on Shuar; Dickinson (2002) on Tsafiki; Valenzuela (2003) on Shipibo-Conibo; Fleck (2003) on Matsés; Olawsky (2006) on Urarina; Michael (2008) on Nanti; Overall (2007) on Aguaruna; and Zariquiey (2011) on Kashibo-Kakataibo. There are good surveys of the languages of Peru in Pozzi-Escot (1998) and Chirinos (2001).

The rich research tradition of the Argentinian descriptive linguists has been continued through numerous new publications covering languages from both Argentina and Paraguay and including grammars of Maká (Gerzenstein 1994), Tehuelche (Fernández Garay 1998), Mocoví (Grondona 1998; Gualdieri 1998), Pilagá (Vidal 2001), Toba (Messineo 2003), Tapiete (González 2005) and Wichí, formerly called Mataco (Terraza 2008). An overview of the Argentinian languages is given in Censabella (1999). Mapuche varieties spoken in Argentina are treated or discussed in Fernández Garay (2001, 2002) and Golluscio (2006). In Chile, the study of indigenous languages has mainly been concentrated on Mapuche (Salas 1992a, 1992b; Zúñiga 2000; Smeets 2008) and Kawesqar (Aguilera 2001). A major lexicographic enterprise is the *Atlas Lingüístico Guaraní-Románico*, conducted at the universities of Kiel and Münster in Germany (Dietrich and Symeonidis 2009).

In connection with the languages of Colombia several important contributions can be mentioned, such as Curnow (1997) on Awa Pit (Cuaiquer); Queixalós (1998, 2000) on Sikwani (Guahibo); Rojas Curieux (1998) on Páez; Mortensen (1999) and Aguirre (1999) on Emberá; Trillos (1999) on Damana; Seifart (2005) on Miraña; and Girón Higuita (2008) on Wãnsöjöt (Puinave). For the languages of Venezuela we may refer to the work of Álvarez (1994) on Guajiro; Mattéi-Muller (1994) on Panare; Romero-Figueroa (1997) on Warao; and, last but not least, the collection of grammatical sketches in Mosonyi and Mosonyi (2000).

The languages of the Guyanas have been the object of active research since the 1990s. Among recent work we can mention Launey (2003) on Palikur, Rose (2011) on Émerillon, Carlin (2004) on Trio, and Courtz (2008) on Carib. A survey of the languages of Suriname, both native Indian and non-indigenous, can be found in Carlin and Arends (2002).

Linguistic description based on the interpretation of pre-modern materials is gradually gaining importance. In this context we can mention Zamponi's work on

Betoi (Zamponi 2003a) and Maipure (Zamponi 2003b); Hovdhaugen (2004) on Mochica; Salas' dictionary of that same language (Salas 2002); Alexander-Bakkerus' (2005) reconstruction of Cholón; Ostler's reconstructive work on the Muisca language and its closest relatives (Ostler 1994, 2000); and an edition of Antonio Machoni's grammar and dictionary of the Lule-Tonocoté language with an extensive grammatical introduction by Raoul Zamponi (Maccioni 2008).

For some of the well established language families there has been significant progress in the establishment of internal relations. For the Cariban languages we may mention work by Gildea (1998), Meira (2000), Franchetto and Meira (2005); for Tupí-Guaranían: Dietrich (1990), Cabral (1995), Rodrigues and Dietrich (1997), Schleicher (1998), Jensen (1999) and Dietrich and Symeonidis (2006); for Macro-Jêan: Ribeiro (2002, 2004); for possible relations connecting these three groups: Rodrigues (2000). For the Arawakan languages there has been important work by Payne (1991) and Ramirez (2001); for eastern Makúan: Martins (2005); for the languages of Argentina and adjacent areas Viegas Barros (2001, 2005). For a fuller treatment of advances in the historical-comparative linguistics of indigenous South America see Campbell, classification this volume.

Current research on the South American Indian languages can rely on a bibliographical tool developed by Fabre (1998). The published version of Fabre's highly useful *Manual de las lenguas indígenas sudamericanas* ('Manual of the South American indigenous languages') is regularly updated in online versions.

11. Prospects

Thanks to the developments of the past two decades the South American indigenous languages have finally attained their legitimate place on the stage of modern linguistics. There is no reason to assume that the trend towards full-scale documentation and grammatical description of the last unstudied languages of the South America will decrease. On the other hand, it will not be sufficient to have a single description for each language. Many of the older descriptions, especially those of the Andean languages, were written in a time in which formal approaches predominated and functionalist views, semantic refinement and syntactic analysis had not yet reached their present potential. There will almost certainly be a call to modernize most of the work on the Aymaran and the Quechuan families that was written in the 1970s and 1980s. The same holds for some of the earlier grammars and dictionaries of South American Indian languages produced by SIL, which were often sketchy and incomplete.

A field that has been showing signs of a take-off is South American historical-comparative linguistics. The genetic situation of the Amazonian languages is gradually becoming more transparent. In contrast, progress in historical linguistics concerning the languages of the Pacific side of South America and the eastern

slopes of the Andes remains unsatisfactory for the time being. The area of the Gran Chaco, where the languages of the Lengua-Mascoyan and Zamucoan families have not been sufficiently studied, also still defies attempts at classification. In the meantime, language contact studies and typological studies will contribute to a better understanding of the complex relations that exist (and have always existed) between the native languages of South America. Finally, the possible linguistic relations between South America, on one hand, and Mesoamerica and North America, on the other, will have to be addressed.

Language maintenance, revitalization and language standardization will remain important issues in the years to come. The eventual survival of any of the South American Indian languages cannot be taken for granted, and depends on the willingness of the speaker communities to invest in language maintenance. The outcome of all the efforts to keep the languages alife is far from certain.

Notes

1 The Amerindian languages section of Leiden University is preparing an edition of Natterer's wordlists.
2 Caspar's unpublished material on the languages of Rondônia has been digitized and partly transcribed at Leiden University. It can be accessed on the Digital Humanities site of the Leiden University Library (https://digihum.leidenuniv.nl/amazonianlanguages).
3 http://www.unesco.org/culture/languages-atlas/

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Classification of the indigenous languages of South America

Lyle Campbell

1. Introduction[1]

The purpose of this chapter is to present a general overview of the classification of the indigenous languages of South America.[2] The aim is to present a classification which reflects as nearly as possible the current state of research, while making clear where disagreements may lie and pointing directions for future research.

In South America (henceforth SA), there are 108 language families, including 53 families that have at least two languages as members that unquestionably are genetically related to one another, and 55 isolates – languages with no known relatives, in effect language families which have only a single member.[3] Of the 53 families, 43 are small, with 6 or fewer languages belonging to the family, though 10 are relatively large. Since in the world there are some 420 language families (including isolates), about a quarter of the world's linguistic genetic diversity is found in SA (Campbell in press, see also Hammarström 2010). This gives indigenous languages of SA a special position.

There are about 420 SA languages still spoken; formerly there were many more. Loukotka (1968) listed 1,492 names of "languages" for SA.[4] The approximate numbers of indigenous languages in some SA countries are: Argentina 15, Bolivia 25, Colombia 65, Peru 60, and Venezuela 30. In Brazil alone there are 154 languages still spoken by Moore's (2006; cf. Galucio and Gildea 2010) reckoning, 180 by Rodrigues' (1986, 2005) counts, and 188 in *Ethnologue* (Lewis 2009). There was probably twice that number at the time of first European contact (Rodrigues 1985: 403, 1986: 18–9). For the Amazon Basin, Dixon and Aikhenvald (1999: 2) count roughly 300 languages, members of some 30 families and isolates, while Rodrigues (2000: 20) reports about 240 languages still spoken in the region today representing 52 language families (including isolates).

South American languages are also not strictly confined to SA territory. The Chibchan family extends as far north as Honduras (Pech [Paya]); Cariban languages reach into the Caribbean, and Arawakan is found also as far north as Belize, Guatemala, Honduras, and Nicaragua (Garífuna).[5] Some of the language families are spread widely. Arawakan languages are or were spoken in some dozen countries: Belize, Bolivia, Brazil, Colombia, French Guiana, Guatemala, Guyana, Honduras, Nicaragua, Peru, Suriname, Venezuela, and on several Caribbean islands.[6] Cariban languages are spoken in Brazil, Colombia, French Guiana, Guyana, Suri-

name, and Venezuela, and formally also on several Caribbean islands. Tupían languages are (or were) spoken in Argentina, Bolivia, Brazil, Colombia, French Guiana, Paraguay, Peru, and Venezuela.

While significant strides have been made in recent years in the classification of the indigenous languages of SA, much also remains to be done to document the many less well-known languages and to clarify their history and classification.[7] The exact number of distinct languages and language families is just not known. In Brazil alone there are officially at least 42 "uncontacted" isolated indigenous groups (Instituto SocioAmbiental 2011); FUNAI (www.funai.gov.br) counts 55. Other countries' counts are said to include Peru 15, Bolivia 5 (maybe 8?), Colombia 3, Ecuador 1, and Guyana 1 (cf. Survival [http://www.survival-international.org/tribes]. Crevels (this volume) reports an estimated 15 uncontacted tribes in the Peruvian Amazon rainforest, and Brackelaire (2006) cites more than 60 isolated groups in SA countries (see also Bracklaire and Azanha 2006). It is difficult to interpret some of these, since some sources cite "uncontacted" groups that have in fact been contacted and are known to be factions of other groups whose languages are known (or at least can be reasonably hypothesized) but who prefer to resist contact with outsiders. In a number of cases, we know or have a good idea what language the group speaks; however, in many, it is not known whether the group speaks a variety of an already identified language, a language currently unknown but which belongs to a known language family, or a language representing as yet an unknown language family.

The identification of SA Indian languages is complicated at times on the one hand by instances where a single language has a variety of names and on the other hand where a single name sometimes refers to multiple languages. Perhaps most SA languages have (or have had) more than one name. For example, Nivaclé (Matacoan family, Argentina and Paraguay) is also called Chulupí and Ashluslay (with many variant spellings) and has variously been called in the literature also Tsoropí, Choropí, Chunupí, Guentusé [Wentusij], Sotiagay [Sotirgaik], Suhín [Sujín], "Tapiete" (erroneously so), etc. On the other hand, the name Chunupí has been used to refer to both Nivaclé and to Vilela (of the unrelated Lule-Vilela family, Argentina). Yaté (also spelled Iaté) (of Brazil) is also called Fulniô (and Fórnio), and formerly Carnijó. Katukina refers to distinct languages: one involves the Katukina of Amazonas state, Brazil, a Katukinan language, also called Katukina do Jutaí, Katukina-Jutaí, Katukina do Río Biá, and Pidá-Djapá; the the other is Katukina (Catuquina), a Panoan language spoken in Acre and Amazonas states in Brazil, also known as, Kamanawa, Katukina do Juruá, and Waninnawa. Another case is Baré; as *Ethnologue* reports, "the name 'Baré' is also used as a cover term for separate languages: Baré, Mandahuaca, Guarekena, Baniwa, Piapoco". Not to be confused are the names: Canoeiro (Rikbaktsá) and Canoeiro (Avá-Canoeiro) (Tupían); Guarayo (Ese'ejja) (Pano-Takanan) and Guarayo (Chiriguano) (Tupían, Tupí-Guaranían branch); Karipuna (Pano-Takanan) and Karipuna (Wayampi) (Tu-

pían); Murato (Cariña) (Cariban) and Murato (Candoshi); Pampa (Gününa-Küne, Argentina) and Pampa (Chechehet, undocumented language of Argentina); Siriano (Desano-Siriano) (Tukanoan), Sirionó (Tupían), Xiriâna (Shiriana) (Arawakan), and Xirianá (Shiriana) (Yanomaman); Suruí (Suruí do Jiparaná, Suruí de Rondônia, Paiter, Surui Paiter) (Tupían) and Suruí do Tocantins (Akwawa) (Tupían): and others indicated in this chapter. A number of languages have been called Makú, several of which have nothing to do with one another; in addition to the "Makú" languages of the Makúan family, there is a Makú isolate (better called Máko, in Roraima state, Brazil), a Makú (Piaroa-Maco, Maco-Piaroa, Sáliba-Maco, Maco) associated with the Sáliban family, and a Mako (Cofán-Makú) (Martins and Martins 1999: 251). Makú is pejorative, said variously to be from Arawakan, meaning 'slave' or 'without speech'. Several languages of distinct families have been called Chavante/Xavante/Shavante (see Otí [isolate], Xavante [Jêan], Ofayé [isolate], etc.).

Mason's (1950) perspective on the problem is still valuable today:

> The situation is further complicated by the fact that, in a large number of instances, the same or a very similar name was applied by colonists to several groups of very different linguistic affinities. This may be a descriptive name of European derivation, such as *Orejón*, [Spanish] "Big Ears"; *Patagón*, [Spanish] "Big Feet"; *Coroado*, [Portuguese] "Crowned" or "Tonsured"; *Barbados*, [Portuguese] "Bearded"; *Lengua*, [Spanish] "Tongue, [Language]". Or it may be an Indian word applied to several different groups in the same way that […] the rustic natives of Puerto Rico and Cuba "*Gíbaros*" [cf. Jívaro] and "*Goajiros*" [cf. Guajiro], respectively. Thus, "*Tapuya*", the *Tupí* word for "enemy", was applied by them to almost all non-*Tupí* groups, "*Botocudo*" to wearers of large lip-plugs, etc. Among other names applied to groups of different languages, sometimes with slight variations, are *Apiacá, Arará, Caripuna, Chavanté, Guaná, Guayaná, Canamarí, Carayá, Catawishi, Catukina, Cuniba, Jívaro, Macú, Tapieté,* not to mention such easily confused names as *Tucano, Tacana* and *Ticuna*. Many mistakes have been made due to confusion of such names.
> (Mason 1950: 163)

We can add that *Auca* (see Sabela, Mapudungun, etc.) comes from Quechua *awqa* 'enemy, savage', and that *Tapiete* comes from a Guaraní form meaning 'enemy, rebel'. Multiple groups have born these two names. A number of languages are called *Baniwa* (*Banívа*), from a Tupí-Guaraní term for 'bitter manioc': Baniwa of Içana (Kurripako) (Arawakan), Baniwa of Guainia (Baniva, Avani, Abane) (Arawakan), Baniwa (Baniva, Karutana-Baniwa) (Arawakan), Baniva (Baniwa-Yavitero) (Arawakan), and Banawá (Baniva, Baniwa) (Arawan). Motilón is another descriptive name, from Spanish meaning 'hairless' (shaven hair), which is given to several groups, for example, as an alternative name for Yucpa (Cariban) and Barí (Chibchan).

Also not be be confused are similar and only slightly different names, such as Chon (Chonan family) with Chono (an unrelated isolate), nor Aushiri (Awshiri, a.k.a. Tequiraca, an isolate) with Auishiri (Awishiri, a.k.a. Sabela or Waorani, another isolate).

While these language names can be confusing, knowing a language's geographical location and the family to which it belongs can help reduce misunderstandings. Another recurrent difficulty is lack of sufficient information in a number of instances to allow us to distinguish between entities that are merely dialects of a single language and those that are separate but closely related languages. As is well known, this is often a difficult question. Here, I have followed the naming practice of the more reliable sources in the literature, listing also known dialect variants when they have well-known names. Kaufman (1990, 1994, 2007) utilizes his own terminology for difficult cases; he speaks of "language areas" which he defines as being "made up of entities that are, in my judgement, almost but not quite distinct languages" and he calls these entities "emergent languages" (Kaufman 2007: 63).

The identification of names is further complicated by the fact that often individual languages have come to be known by the name of the river where they are located or by other salient geographical features, such as names of mountains or islands where they are found. As Harms (1994: 2) points out, "the languages and dialects of the Chocó[an] family are often referred to by linguists using the names of the rivers along which they are spoken". This is true in many other instances. For example, a number of different languages bear names similar to the Canamarí River: Kanamaré [Canamaré] (Arawakan), Kanamarí [Kanamaré] (Katukinan), and Canamari [Taverí, Matoinahã] (Panoan). Some other language names that refer to the rivers on which they are found are: Arasa [Loukotka (1968: 176) ambiguously attributed to both Panoan and to Takanan]; Carcarañá [for the Carcarañá River, Argentina (Loukotka 1968: 62)]; Cauca [another name for Coconuco]; Caura [another name for Sanumá (Yanomaman)]; Chama [another name for Ese'ejja]; Chincha [Chincha River, Peru (Loukotka 1968: 272)]; Chinchipe [for the Chinchipe River, Peru (Loukotka 1968: 179)]; Cofán [for the Cofanes River, Colombia (Loukotka 1968: 260)]; Mizque [Mizque River, Bolivia (Loukotka 1968: 272)]; Mocoreta [Mocolete, Macurendá, for the Mocoreta River in Argentina (Loukotka 1968: 62)]; Napipí [Napipí River for a variety in the Emberá dialect continuum]; Pacahuara (Panoan) [for the Pacahuaras River]; Paraíba [for the Paraíba River, Rio de Janeiro state, Brazil (Loukotka 1968: 67)]; Pindaré [dialect of Tenetehara, Tupían]; Purus [listed sometimes as a Panoan language; cf. Ehrenreich (1897)]; Tubichaminí [for the Tubichaminí River in Argentina (Loukotka 1968: 48)]; Urupá [for the Urupá River, Brazil (Loukotka 1968: 162)]; Yarú [for the Yarú River, Brazil (Loukotka 1968: 162)]; and Yurumanguí (Yurimanguí) [for the Yurimanguí River, Colombia]. Maracano is named for Maracá Island, Brazil (Loukotka 1968: 229).[8]

2. Classification in historical context (see also Adelaar in this volume)

South American historical linguistics has been dominated by large-scale wholesale classifications of the SA indigenous languages, for example Greenberg (1960, 1987), Jijón y Caamaño ([1940–1945] 1998), Kaufman (1990, 1994, 2007), Loukotka (1968), Mason (1950), Rivet (1924), Rivet and Loukotka (1952), Suárez (1974), Swadesh (1959), Tovar (1961), and Tovar and Tovar (1984). These classifiers were large-scale compilers of things about which for the most part they had little or no personal knowledge. The individual language families received less attention; the interest was in large-scale groupings that would include several families at once. These broad-scale classifications frequently conflict with one another in their treatment of specific linguistic groups, and in numerous instances they are based on little to no evidence for some of the entities they classify. In Rodrigues' (2000: 17) opinion, "the general table of the genetic classification of the SA languages has changed little in the last 50 years".[9] He reports that though there have been radical proposals to reduce the number of linguistic families, they do not progress beyond being mere speculative hypotheses. He believes that the historical comparative study of Amazonian languages is still in its beginning stages (Rodrigues 2000: 23). While this is true for many cases, much new information has also come forth, especially in the last 15 years or so, improving the overall picture of SA linguistic classification in some significant ways.

The methodology for language classification used by some practicioners also left much to be desired. For example, it is generally recognized that non-linguistic evidence is to be avoided in determining genetic relationships among languages (see Campbell and Poser 2008: 205–206). However Rivet (1943), to take one example, suggested the distribution of cultural elements might help to determine the classification of some languages, for example the ligatures worn on the arms and legs considered characteristic of Cariban-speaking people and hence of Cariban languages (Rivet 1943: 85; Rowe 1954: 17). It was suggested that Jêan languages could be identified because of association with savannah areas. Sometimes the "evidence" for larger groupings was geographical proximity alone.

The classification as understood today rests on the work of many; it is worth mentioning some milestones in this history and their contributions.

Fr. Filippo Salvatore Gilij [1721–1789] lived on the Orinoco River from 1741 until the expulsion of the Jesuits in 1767 in central Venezuela where he became familiar with several of the languages and spoke Tamanaco (Mapoyo-Yavarana [Cariban], now extinct) well. He discussed loan words among Indian languages (Gilij [1780–1784] 1965: 133, 175, 186, 235, 236, 275), loans from Indian languages into Spanish and other European languages (Gilij 1965: 186, 191–192), the origin of Native American languages and language extinction (Gilij 1965: 171), sound change, sound correspondences, and the classification of several lan-

guage families. He recognized sound correspondences among several Cariban languages:

> Letters [sounds] together form syllables. The syllables *sa, se, si*, etc., very frequent in Carib [probably Cariña], are never found in its daughter language Tamanaco, and everything that is expressed in Carib as *sa*, etc., the Tamanacos say with *chá*. For example, the bowl that the Caribs call *saréra* the Tamanacos call *charéra*. Pareca is also a dialect [sister] of the Carib[an] language. But these Indians, unlike the Tamanacos and Caribs, say softly in the French fashion, *sharera*.[10]
> (Gilij 1965: 137)

He had an accurate sense of how languages diversify, referring frequently to the example of the Italian dialects (e.g. Genoese, Napolitano, Tuscan, Venetian, etc, essentially mutually unintelligible languages [e.g. Gilij 1965: 234]) and to other Romance languages, such as the difference between Italian, French, and Spanish.

Gilij repeatedly referred to the great number of languages in the Orinoco area ("que parecían al principio infinitas" [that in the beginning seemed infinite] [Gilij 1965: 175]), but found that they belong to only nine "lenguas matrices" [language families]. He was the first to recognize the Cariban and Arawakan families. In recognizing his nine, he also allowed for the possibility that some of these may have additional relatives. His nine families ("matrices") were (Gilij 1965: 174–175):

(1) Caribe [Cariban]: Tamanaco, Pareca (Loukotka 1968: 213), Uokeári [Wökiare, Uaiquire (Loukotka 1968: 213)], Uaracá-Pachilí, Uara-Múcuru [women only], Payuro [Payure (Loukotka 1968: 150)], Kikirípa [Quiriquiripa;(Loukotka 1968: 210)], Mapoye [cf. Mapoyo-Yavarana], Oye, Akerecoto, Avaricoto [Aguaricoto (Loukotka 1968: 210)], Pariacoto [Pariagoto (Loukotka 1968: 215)], Cumanacoto [Cumaná], Guanero (cf. Loukotka 1968: 241), Guaikíri [Guaquiri (Loukotka 1968: 213)], Palenco [Patagora, Palenque], Maquiritare [Makiritare], Areveriana (cf. Loukotka 1968: 212), Caribe [Cariña, Galibí].

(2) Sáliva [Sáliban]: Ature [cf. Sáliban (Piaroa-Maco)], Piaroa, Quaqua (cf. Loukotka 1968: 213), Sáliva.

(3) Maipure [Maipurean, Arawakan]: Avane [Abane, Avani], Mepure [Mepuri (Loukotka 1968: 229), Cávere [Cabere, Cabre], Parene [Yavitero], Güipunave, Kirrupa, Maipure, and "many other languages [lenguajes] hidden in the high Orinoco, the Río Negro, and the Marañon […] it is certain that Achagua is a dialect [sister] of Maipure" (Gilij 1965: 175).

(4) Otomaca and Taparíta [Otomacoan].

(5) Guama and Quaquáro [cf. Guamo].

(6) Guahiba, "which is not dissimilar from Chiricoa" [Guajiboan; cf. Loukotka (1968: 148)] (Gilij 1965: 175).

(7) Yaruro (Pumé).

(8) Guaraúno [Warao].

(9) Aruáco [Arhuaco, cf. Ika, Bíntucua].

He also reported Father Gumilla's opinion that the many languages of the Casanare River were reducible to two *matrices*/families, Betoye [Betoi] and Jirara (considered by Kaufman [1994] to be two varieties of Betoi). (Del Rey Fajardo 1971: Vol. 1, 178.)

Lorenzo Hervás y Panduro [1735–1809] was a missionary in Mexico until the Jesuit Order was expelled in 1767. Returning with the Order to Rome, he prepared a catalogue of the world's languages (Hervás y Panduro 1784–1787, 1800–1805; cf. Del Rey Fajardo 1971.1: 190). He established several *lenguas matrices* 'language families' and discussed others. He listed the language families: (1) Tupí, Guaraní, Homagua [Omagua-Campeva], and "Brasile volgare" [Tupí-Guaraní family]; (2) Guaicurú [Kadiweu], Abipón, and Mocobí [Guaicuruan family]; and (3) Lule and Vilela [Lule-Vilelan]; and (4) Maipure and Moxa [Moxo] [Arawakan]. He also listed 25 *dialectos caribes*, languages of the Cariban family (based largely on Gilij; see Hervás y Panduro 1800–1805: Volume 1, 204–205).

Other notable earlier figures include *Karl Friedrich Philipp von Martius* [1794–1864], *Karl von den Steinen* [1855–1929], *Max Uhle* [1856–1944], and *Kurt Nimuendajú* (originally Curt Unckel) [1893–1945]. Von Martius' extensive collection of SA vocabularies (with over 120 Indian groups represented), his classification of Tupían languages, and his map showing the linguistic classification of lowland SA were much cited (see von Martius 1867). Von den Steinen offered hypotheses as varied as the home of Cariban languages (von den Steinen 1892) to recognizing the relatedness of Zamucoan languages (von den Steinen 1895); he urged the importance of *Lautgesetze* 'sound laws' (cf. Campbell 1997: 54, 204). Max Uhle (1890) identified the Chibchan language family, Nimuendajú also collected numerous wordlists, gave us a map of the languages of Brazil (Nimuendajú [1944] 1981), and proposed genetic relationships among several languages of Brazil (see Adelaar, this volume, for details).

Daniel Garrison Brinton (1891) provided the first overall classification of SA languages; it remained influential. *Paul Rivet's* [1876–1958] catalogue of South American languages contained 77 language families and some 1240 languages and dialects. Aspects of his classification were followed by most subsequent classifiers of SA languages, in particular by Loukotka (1968), Mason (1950), and Greenberg (1960, 1987).

Rivet had classified languages of Bolivia, Peru, Ecuador, Colombia, and western Brazil. However, Rivet's methods were unreliable, assessed harshly by Rowe (1954):

> If, for example, he [Rivet] finds a new language, which he thinks may be Arawak[an], he compares each word of its vocabulary with words of similar meaning in perhaps thirty languages that he has already classified as "Arawak." If he finds any similar form in any of the thirty languages, it is evidence of relationship, and the fact that the total number of similarities to any one "Arawak" language may be very small is lost in the

> comparative table. Rivet is looking for similarities rather than systematic sound correspondences, and he does no reconstructing.
> (Rowe 1954: 15; cf. also Wilbert 1968: 9.)

Other aspects of Rivet's methods have also been criticized:

> He [Rivet] cuts up the words with hyphens, not according to etymological principles but in whatever way is convenient for his comparisons. Another thing that I cannot accept is the way in which he compares words whose meanings are too far apart.
> (Nimuendajú and Guérios 1948: 233–234, translated by Rowe 1954: 15–16.)

As mentioned above, in some cases Rivet proposed classifications that were based on non-linguistic evidence, e.g. arm and leg ligatures to add languages to the Cariban family (Rivet 1943: 85). A standard principle of historical linguistics is that non-linguistic evidence is invalid for linguistic classifications (see Campbell and Poser 2008: 205–206). (See Rowe [1954] and Adelaar [1989] for Rivet's mistaken classifications.) Rivet (1925a) also expressed doubts about whether sound change in "exotic" languages is regular, and for this he received additional criticism (cf. Andresen 1990: 189). His claims to have demonstrated a relationship between SA and Australian languages placed him in further disrepute (cf. Rivet 1925a, 1925b, 1926, 1957).

J. Alden Mason's [1885–1967] (1950) classification of SA languages is still frequently cited. Mason was in the tradition which sought to reduce the vast diversity among American Indian languages by proposing preliminary but undemonstrated hypotheses of more far-reaching families to be tested in later research; this lumping orientation characterizes by the other wholesale classifications of SA languages that came later.[11]

Čestmír Loukotka's [1895–1966] (1942, 1968). Loukotka, a student of Rivet, assembled vocabularies from others. In several instances, he followed Rivet's proposals. He revised and reissued his classification four times, recognizing 94 SA families in 1935, 114 families with 27 unclassified languages in 1942, and finally in the 1968 classification 117 stocks (including language isolates), with a total of 1,492 languages (Loukotka 1968). Loukotka's method was generally criticized. He attempted wherever possible to assemble a list of "forty-five typical words"; classification was based on visual scanning of these lists for similarities among languages (Rowe 1954: 15).

One of Loukotka's concerns was with the difficulty of determining the amount of diffusion and language mixture that might be involved (Wilbert 1968: 11). A mixed language (*Mischsprache*) for Loukotka was one in which the number of non-native vocabulary from the 45-word list exceeded one fifth of the total (Loukotka 1942: 1), but his judgements concerning native vs. borrowed forms were very impressionistic (Wilbert 1968: 13–14). The difficulty of distinguishing between diffused and genetically inherited material is of high importance for investigating possible distant genetic relationships, and areal linguistics is an important

component in investigations of possible relationships among languages of the Americas; possible linguistic areas of SA need to be investigated more fully (see Campbell 1997: 346–352; Campbell and Grondona, this volume).

Since Mason's (1950) classification, other wholesale classifications have appeared (Greenberg 1960, 1987; Kaufman 1990, 1994, 2007; Migliazza and Campbell 1988; Suárez 1974; Swadesh 1959; Tovar 1961; and Tovar and Larrucea de Tovar 1984). Nevertheless, these broad-scale classifications are not methodologically sounder than their precursors. The sheer number of languages and families and the lack of information on many of them (with conflicting information on others) result in these classifications simply repeating portions of previous proposals that covered the same terrain. On the whole, they remain relatively speculative and do not apply the sorts of methods that most scholars favor, had the situation been amenable. Much historical linguistic research has been conducted in various SA language families since Mason (1950) and especially in the last 25 years since Greenberg (1987); the overall picture is much clearer, though with many remaining gaps and uncertainties.

3. Uncontroverial families and isolates

Most linguists accept as established and uncontroversial the following family groupings of SA languages.

3.1. Established larger families

The larger established families – those with six or more languages – are:

1. Arawakan (Maipurean/Maipuran) (ca. 65 languages; 40 still spoken [Aikhenvald 1999a: 65; Kaufman 2007])
2. Cariban (ca. 40 languages, ca. 100 languages named, ca. 25 still spoken) (see Gildea, this volume; cf. Derbyshire 1999: 23)
3. Chapacuran (Txapakúran) (9 languages)
4. Chibchan (23 languages [see Constenla, this volume])
5. Jêan family (ca. 12 languages) (Rodrigues 1999b; Ribeiro 2006)
6. Pano-Takanan (There is excellent evidence and general agreement that Panoan and Takanan are members of a single larger family [Girard 1971: 145–171; Loos 1973, 1999; cf. Suárez 1969, 1973, 1977]).
   Panoan (ca. 30 languages)
   Takanan (some 6 languages)
7. Makúan (Makú-Puinavean, Puinavean, Guaviaré-Japurá family) (8 languages [?] [Martins 2005; Girón 2008])
8. Quechuan (23 languages [?] [Cerrón-Palomino 1987]) [The question of how to distinguish between entities that are dialects of a single language vs. that are separate languages is particularly serious in the case of Quechuan languages

and dialects, and much work remains to be done. Though it is well-known and very clear that there are a number of distinct languages in Quechuan, some very distinct, the tendency to consider them all merely dialects of "Quechua" persists in many circles.]

9. Tukanoan (Tucanoan) (ca. 20 languages [Barnes 1999: 207; Gomez-Imbert and Kenstowicz 2000: 420]).
10. Tupían (ca. 55 languages) (Rodrigues 1999a: 107–24; Rodrigues and Cabral, this volume; Rodrigues and Dietrich 1997).

3.2. Small families

The accepted smaller families (of fewer than six languages) are:

1. Arawan (Arahuan, Arauan, Arawán) (6 languages; cf. Dixon [1999])
2. Aymaran (2 languages) (Cerrón-Palomino 2000)
3. Barbacoan (5 languages) (Curnow and Liddicoat 1998)
4. Bororoan (3 languages)
5. Cahuapanan (2 languages)
6. Cañar-Puruhá (Ecuador) (uncertain family of 2 languages)
7. Charruan (3 languages)
8. Chipaya-Uru (3 languages)
9. Chocoan (2 to 6 languages)
10. Cholonan (2 languages) (Adelaar and Muysken 2004: 460–462)
11. Chonan (Chon family) (3 languages)
12. Guaicuruan (Waykuruan) (5 languages)
13. Guajiboan (4 languages)
14. Harákmbut-Katukinan (3 languages) (probable but uncertain grouping)
15. Huarpean (Warpean) (2 languages)
16. Jabutían (2 languages)
17. Jirajaran (3 languages)
18. Jivaroan (4 languages?)
19. Kamakanan (5 languages?)
20. Karajá language area (2 languages?)
21. Karirian (Karirí family) (4 languages)
22. Krenákan (Botocudoan, Aimoré language complex) (3 languages)
23. Lule-Vilelan (2 languages) (Viegas Barros 2001)
24. Mascoyan (4 languages) (Fabre 2005)
25. Matacoan (4 languages)
26. Maxakalían (3 languages)
27. Mosetenan (2 languages)
28. Muran (4 languages, all extinct but one)[12]
29. Nambikwaran (perhaps 5 languages [Lowe 1999; Telles and Wetzels, forthcoming])

30. Qawasqaran (Kaweskaran, Alacalufan) (2 or 3 languages) (Viegas Barros 1990, 2005: 37–43)
31. Otomacoan (2 languages)
32. Paezan (1 or 2 [or 3] languages; possibly an isolate)
33. Purían (2 languages)
34. Sáliban (Sálivan) (3 languages?)
35. Sechura-Catacaoan (3 languages)
36. Timotean (2 languages)
37. Tikuna-Yuri (Caravalho 2009)
38. Tiniguan (2 languages)
39. Yaguan (3 languages)
40. Witotoan (Huitotoan) (5languages) (Aschmann 1993)
41. Yanomaman (4 languages [Migliazza 1972])
42. Zamucoan (2 languages)
43. Zaparoan (3 languages)

3.3. Isolates

The language isolates (languages with no known relatives) in South SA are (cf. Rodrigues 1986: 93–98; Campbell 1997; Kaufman 2007):

44. Aikaná Brazil
45. Andaquí Colombia
46. Andoque (Andoke) Colombia, Peru
47. Atacameño (Cunza, Kunza, Atacama, Lipe) Chile, Bolivia, Argentina
48. Awaké (Ahuaqué, Uruak) Venezuela, Brazil
49. Baenan Brazil
50. Betoi Colombia (possibly a small family)
51. Camsá (Sibundoy, Coche) Colombia
52. Candoshi (Candoxi, Maina, Shapra, Murato) Peru
53. Canichana Bolivia
54. Cayuvava (Cayuwaba, Cayubaba) Bolivia
55. Chiquitano Bolivia
56. Chono Chile
57. Cofán (A'ingaé) Colombia, Ecuador
58. Culle Peru
59. Gamela Brazil
60. Guachí Brazil
61. Guató
62. Irantxe (Iranche, Münkü) Brazil
63. Itonama (Saramo, Machoto) Bolivia, Brazil
64. Jeikó (Jeicó, Jaiko) Brazil [Macro-Jêan?]
65. Jotí (Yuwana) Venezuela

66. Kaliana (Sapé, Caliana, Cariana, Chirichano) Venezuela
67. Kapixaná (Kanoé) Brazil
68. Koayá (Kwaza, Koaiá, Arara) Brazil
69. Máku (Mako) Brazil
70. Mapudungu (Mapudungun, Araucano, Mapuche, Maputongo) Chile, Argentina
71. Matanauí Brazil
72. Mochica (Yunga, Yunca, Chimú, Mochica, Muchic) Peru
73. Movima Bolivia
74. Munichi (Muniche, Munichino, Otanabe) Peru
75. Natú (Peagaxinan) Brazil
76. Ofayé (Opayé, Ofayé-Xavante) Brazil [Macro-Jêan?]
77. Omurano (Humurana, Numurana) Peru
78. Otí Brazil
79. Pankararú (Pancararu, Pancarurú, Brancararu) Brazil
80. Payaguá Paraguay
81. Puquina Bolivia
82. Rikbaktsá (Aripaktsá, Eribatsa, Eripatsa, Canoeiro) Brazil [Macro-Jêan?]
83. Sabela (Huao, Auca, Huaorani, Auishiri) Ecuador
84. Taruma (Taruamá) Brazil, Guyana
85. Taushiro (Pinchi, Pinche) Peru
86. Tequiraca (Tekiraka, Aushiri, Auishiri, Avishiri)[13] Peru
87. Trumai (Trumaí) Brazil
88. Tuxá Brazil
89. Urarina (Simacu, Kachá, Itucale) Peru
90. Wamoé (Huamoé, Huamoi, Uamé, Umã; Araticum, Atikum) Brazil
91. Warao (Guarao, Warau, Guaruno) Guyana, Suriname, Venezuela
92. Xokó Brazil
93. Xukurú Brazil
94. Yagan (Yaghan, Yamana, Yámana) Chile
95. Yaruro (Pumé, Llaruro, Yaruru, Yuapín) Venezuela
96. Yaté (Furniô, Fornió, Carnijó, Iatê) Brazil (dialects: Fulniô, Yatê)
97. Yuracaré Bolivia
98. Yurumangui Colombia

(See also unclassified languages below).

4. The membership of SA language families (including isolates)

The internal classification of languages within the accepted language families (and isolates) is presented in what follows. Since insufficient comparative linguistic work has been undertaken in a number of instances, controversies remain about the

classification of some languages, and some scholars may favor different internal subgroupings for some of these language families. Alternative language names are given in parentheses. When major variants are known by name, these dialect names are also given in parentheses. (There is less consistency in dialect names than on names of languages, and in most cases, dialect names are ignored unless they have played a role in discussions of classification or identification of the languages.) Languages which are reported to be extinct are listed with an asterisk after them (for example, Andaquí*).

Aikaná (Aikanã, Huarí, Warí, Masaká, Tubarão, Kasupá, Mundé, Corumbiara) Brazil
(Dialect: Masaká [Massaca, Massaka, Masáca]).
Loukotka (1968: 163) lists in his "Huari stock" several of the alternative names above as separate languages, including also: Aboba, Maba, Puxacáze, and Guajejú as additional languages but of which "nothing" was known.

Andaquí* Colombia
The proposed Chibchan connection of Andaquí has been discounted; it is sometimes associated with Paezan, though with no compelling evidence. (Not to be confused with Andaquí.)

Andoque (Andoke, Cho'oje, Patsiaehé) Colombia, Peru
Sometimes wrongly classified with Witotoan. Andoque shares some typological similarities with Arawakan, Tukanoan, and Witotoan, but the evidence does not permit classifying it with any of these other language families (Landaburu 2000: 30). (Not to be confused with Andaquí.)

Arawakan (Arahuacan, Maipurean, Maipuran)
Arawakan is the name traditionally applied to what is sometimes called Maipurean (or Maipuran). Maipurean used to be thought to be just a subgroup of Arawakan, though now the languages which can clearly be established as belonging to the family – whatever its name – appear all to fall within the so-called Maipurean group. Some scholars, therefore, use "Maipurean" in the sense Arawakan is used here, reserving "Arawakan" for Maipurean plus the other languages hypothesized to be related to these at a higher level, though these proposals are not certain. With respect to number of languages, Arawakan is the largest family in the Americas, with more than 60 languages, though apparently it began diversifying later than, for example, Chibchan and Tupían. Its classification is complicated both by the number of internal branches and the fact that some 30 of the languages are extinct. Its classification is much less clear than for most of the other families of SA, and classifications that have been offered vary considerably one from another (Aikhenvald 1999a: 67–71;

Derbyshire 1992; Kaufman 2007: 65–67; Payne 1991; cf. Fabre 2009). The classification here follows most closely that of Kaufman (2007) (and personal communication).

Northern Arawakan (Upper Amazon, Maritime, and Eastern branches)

(Kaufman [2007: 65] no longer has the traditional "Northern" vs. "Southern" division.)

Upper Amazon branch

(This is a difficult subgroup, since most of the languages are extinct with little attestation.)

Western Nawiki sub-branch

Wainumá group

Wainumá* (Waima, Wainumi, Waiwana, Waipa, Yanuma) Brazil
Mariaté* Brazil
Anauyá* Venezuela

Piapoco group

Achagua (Ajagua, Xagua) Colombia, Venezuela
Piapoco Colombia
Amarizana* Colombia
Cabiyarí (Caviyarí, Kaviyarí, Cabiuarí, Cauyarí, Cuyare) Colombia

Warekena group

Guarequena (Warekena, Guarenquena, Arequena) Venezuela, Colombia, Brazil
Mandahuaca (Mandawaka, Mandauaca, Maldavaca, Ihini, Arihini, Maldavaca, Cunipusana, Yavita, Mitua) Venezuela, Brazil

Río Negro group*

Jumana* Brazil
Pasé* Brazil
Kawishana* (Cawishana, Kaiwishana, Kayuwishana) Brazil

Yucuna (Jukuna) (dialects or languages)[14]

Yucuna (Chucuna, Matapí) [Jukuna] Colombia
Garú* (Guarú) Colombia

Eastern Nawiki sub-branch

Tariana (Tariano, Tarîna, Taliáseri) Brazil, Colombia
Karu (dialects or languages)[15]
Ipeka-Kurripako (dialects or language) Brazil, Colombia, Venezuela

Ethnologue has two separate languages, Curripaco (Curipaco, Kuripako, Koripako, Korispaso, Coripaco) (with dialects: Korripako (Karupaka), Unhun (Cadauapuritana, Enhen), and Ipeka-Tapuia (Pato-Tapuya, Pato Tapuia, Cumata, Ipeca, Pacu, Paku-Tapuya, Payuliene, Payualiene, Palioariene) (with dialect: Waliperi (Veliperi).

Karútana-Baniwa (Baniva) dialect group Brazil, Colombia, Venezuela
Ethnologue gives Baniwa (Baniua do Içana, Maniba, Baniva, Baniba, Issana, Dakenei) as a separate language (Dialects: Hohodené [Hohodena, Kadaupuritana], Siusy-Tapuya [Seuci, Siuci, Siusi]); groups reported as speaking Baniwa are: Hohodené, Kadaupuritana, Sucuriyu-Tapuya, Siusy-Tapuya, Irá-Tapuya, Kawá-Tapuya, Waliperedakenai. It is said to be related to Carutana and Curripaco. *Ethnologue* gives Carútana (Karutana, Arara do Amazonas) also as a separate language, with dialects: Adaru, Arara, Dzaui (Dzawi), Jauarete (Yawarete Tapuya), Jurupari (Yurupari Tapuya), Mapache, Uadzoli (Wadzoli), Urubu. Curripaco (Curipaco, Kuripako, Koripako, Korispaso) is also considered distinct, with dialects: Korripako (Karupaka), Unhun (Cadauapuritana, Enhen). Aikhenvald (1999a: 71) treats Baniwa of Içana and Kurripako as alternative names for a single language; she lists Baniwa of Guainia (also called Baniva, Baniwa of Guainá, Avani, Abane, Avane) as a separate language of her Orinoco group in North-Amazonian Arawak[an].

Katapolítani-Moriwene-Mapanai (dialects or language)
Brazil

Resígaro Peru, Colombia
Ethnologue lists Resígaro as nearly extinct, Aikhenvald (1999a: 70) as extinct.

Central Upper Amazon sub-branch

Baré group

Marawá* Brazil

Baré (Bare, Ihini, Barawana, Barauna, Barauana, Arihini, Maldavaca, Cunipusana, Yavita, Mitua) Brazil, Venezuela,

Guinao* (Guinaú) Venezuela

(Aikhenvald [1999a: 71] mentions Guinau with Bare.)

Yavitero group

Yavitero* (Yavitano) Venezuela

Baniva* Venezuela

Maipure* Colombia, Venezuela

(Aikhenvald [1999a: 71] gives Yavitero and Baniwa of Yavita as alternative names for a single language.)

Manao group

Manao* Brazil

Kariaí* Brazil

(Aikhenvald [1999a: 72] places also Bahwana/Chiriana and Kaixana, both extinct, with Manao in her Middle Rio Negro group of "North Amazonian Arawak.")

Arawakan Upper-Amazon branch languages of uncertain grouping

Languages which belong to the the Upper Amazon branch but where there is not enough data to determine where they fit in that branch:

Waraikú* Brazil

Yabaána* (Jabaana, Yabarana) Brazil

Wiriná* Brazil

Xiriâna* (Shiriana) Brazil

(Not to be confused with Xiriana/Shirianá variety of Ninam [Yanomaman].)

Maritime branch (Caribbean)

Aruán* (Aruá, Aroã) Brazil

Mawayana (Mahuayana, Madipian) Guyana

Wapixana (Wapishana, Wapixiána, Wapisiana, Uapixana, Vapidiana) Guyana, Brazil (dialects or languages) (Dialects: Amariba, Atorai)

Ethnologue lists Atorada (Atorad, Ator'ti, Dauri, Atorai), Mapidian (Maopityan, Maiopitian, Mawayana, Mahuayana), and Wapishana as a separate "Wapishanan" languages. Aikhenvald (1999a: 69) distinguishes Wapishana and Mawayana/Mapidian/Mawayka as separate languages in the Rio Branco branch of her North Arawak.

Ta-Maipurean sub-branch

Taíno* Caribbean

Guajiro group

Guajiro (Goahiro, Goajiro, Guajira, Wayuunaiki, Wayuu) Colombia, Venezuela

Paraujano (Añún) Venezuela (Dialects: Alile, Toa)

Arawak (Locono, Lokono, Aruak, Arowak) Guyana, Suriname, French Guiana, Venezuela

Iñeri (Igneri, Island Carib) (dialects or languages)

Kalhíphona* (Island Carib) Dominica, St. Vincent

Garífuna (Black Carib) Honduras, Guatemala, Belize, Nicaragua

Eastern branch

Palikur (Palikour, Palicur, Palijur) (dialects or languages)

Palikur Brazil, French Guiana

Marawán-Karipurá* Brazil

Southern division

Western branch

Amuesha (Amuese, Amoesha, Amueixa, Amoishe, Amagues, Amage, Omage, Amajo, Lorenzo, Amuetamo, Amaje, Yanesha) Peru

Chamicuro (Chamicura, Chamicolo) Peru

Central branch

Paresí group

Paresí (Parecís, Paretí, Haliti) Brazil

Saraveca* (Sarave) Bolivia, Brazil

Waurá group

Waurá-Meinaku (Uara, Aura, Mahinacu) Brazil

Ethnologue has Mehináku (Mehinaco, Mahinaku, Minaco) as a separate language, but said to be "somewhat intelligible with Waurá", and Waurá is reportedly "partially intelligible with Mehináku". Aikhenvald (1999a: 67) also has Waurá and Mehinaku as separate languages.

Yawalapití (Jaulapiti, Yaulapiti) Brazil

Custenau* (Kustenau) Brazil

Ethnologue also gives Agavotaguerra (Agavotokueng, Agavotoqueng) as an "unclassified" language "related to Waurá and Yawalapiti".

Southern Outlier branch

Terena (Tereno, Terêna, Etelena, Guaná,[16] Chané, Kinikinao) Bolivia, Brazil, Paraguay, Argentina (dialects: Kinikanao, Etelena [Terena], Guaná)

(Aikhenvald [1999a: 67] lists Kinikinao, Guané/Layana, Chané/Izoceño extinct South Arawakan languages.[17])

Mojo group

Mojo (Morocosi, Mojeño, Moxeño, Moxo) (dialects or languages)

Ignaciano Bolivia

Trinitario Bolivia (Dialects: Loreto [Loretano], Javierano])

Aikhenvald (1999a: 67) lists Moxo and Ignaciano as alternative names for the same language; *Ethnologue* lists Mojo as an alternative name for Ignaciano, with Trinitario as a dialect with limited intelligibility, but also lists Trinitario as a separate language with the dialects Loreto [Loretano] and Javierano.)[18]

Bauré (Chiquimiti, Joaquiniano may be a dialect of Bauré) Bolivia

Paunaca (Pauna-Paicone [Paiconeca])[19] Bolivia

Aikhenvald (1999a: 67) gives Paiconeca and Pauna as separate extinct languages.

Piro group[20]

Piro Brazil, Peru (dialects: Chontaquiro, Maniteneri, Maxineri)

Iñapari (Inamarí) Peru, Bolivia, Brazil (dialects: Inapari/Inamarí, Cuchitineri [Kushitineri], Cuniba)[21]

Kanamaré* (Canamaré) Brazil

Not to be confused with Kanamarí/Kanamaré (Katukinan family).

Apuriná (Apurinã, Ipuriná, Kangite [Cangaiti], Popengare) Brazil

Campa branch – (Campa dialects or languages)[22] Peru
Ashéninka (Ashéninga)
Asháninka (Asháninga)
Caquinte (Kakinte)
Pajonal Ashéninka (Pajonal Campa)
Machiguenga (Matsiguenga, Matsigenka) (dialects: Caquinte [Poyenisate], Nomatsiguenga [Atiri], Machiguenga)
Nomatsigenga
Nanti
(Michael 2008; Aikhenvald 1999a: 68)

Ethnologue distinguishes seven varieties of Ashéninka as separate languages: Ajyíninka Apurucayali (Ashaninca, Ashéninca Apurucayali, Apurucayali Campa, Ajyéninka, "Campa", "Axininka Campa", said not to be "intelligible with other varieties of Ashéninka"), Asháninka, Ashéninka Pajonal (Ashéninca, Atsiri, Pajonal, "Campa"), Ashéninka Perené ("Perené Campa", said to be "somewhat intelligible with other varieties of Ashéninka"), Ashéninka, Pichis ("somewhat intelligible with other varieties of Ashéninka"), South Ucayali Ashéninka, and Ucayali-Yurúa Ashéninka (Ucayali Ashéninca, "somewhat intelligible with other varieties of Ashéninka").

Ethnologue includes with these "Campa branch" languages (their "Pre-Andine" branch of Arawakan) also Caquinte (Caquinte Campa, Poyenisati, Cachomashiri) and Nanti (Cogapacori, Kogapakori). The term "Pre-Andine" is now mostly abandoned; its membership was much disputed and shifted dramatically over time until now what would have been accepted as languages in a "Pre-Andine" branch are mostly the same as those of the Campan branch (see Michael 2008: 237). Michael (2008: 218) has a Northern Kampan branch (with Ashéninka and Asháninka on one branch, and Kakinte on another) and a Southern Kampan branch (with Matsigenka and Nanti on a branch, and Nomatsigenga on a different branch).

Other Arawakan languages too scantily known to determine to which branch of the family they belong:
Cumeral Colombia (*Ethnologue*)
Shebaya* (Shebayo, Shebaye) Trinidad (David Payne 1991: 366–367)
Lapachu (Apolista, Aguachile) Bolivia

Aikhenvald (1999a: 67) places Apolista in her "South Arawak[an]".

Morique* (Morike) Peru, Brazil
Ponares Colombia (*Ethnologue*)
Omejes Colombia (*Ethnologue*)
Perhaps also Salumã Brazil (Rodrigues 1986: 72)

Aikhenvald (1999a: 67) places this language in her "South Arawak[an]".

Tomedes (Tamudes) Colombia

Taylor (1977) spoke of "ghost" languages because virtually no trace was left of them. For some of these languages, only their names remain, saved in 17th century texts. For Macorixe and Ciboney only one word survives for each. Two words are recorded for Ciguayo. More words were recorded for Nepuyo, and Shebayo. His ghost languages are: Caquetío, Ciboney, Macorixe, Maisi, Ciguayo, Ciboney, Guaccaierima, Guaikeri, Carinepagoto, Nepuyo, Shebayo, and Yao. Aikhenvald (1999a: 69) gives Caquetio and Shebayo as members of her TA-Arawak subgroup of Caribbean.[23] Yao belongs to the Cariban family.

Arawan (Arauán, Arahuan, Arawa) (Dixon 1999: 295)[24]

Paumarí (Purupurú, Pamarí, Palmarí, Curucuru) Brazil

(Dialects: Kurukuru, Uaiai, Paumarí [Pammari])

Madi (Jarawara [Jarauára, Jaruára], Jamamadi, Banawá [Banivá, Baniwá-Jafí, Kitiya, Banavá, Banauá, Jafí]) Brazil

Ethnologue reports Banawá as a separate language "not as close to Jamamadí linguistically as previously thought". It also has Jamandí (Yamamadí, Kanamanti, Canamanti) as a distinct language, with dialects: Bom Futuro, Jurua, Pauini, Mamoria (Mamori), Cuchudua (Maima), Tukurina, reporting that "other groups are called 'Jamamadí' which are closer to Culina or Dení. Tukurina may be a separate language. Dialects or related languages: Araua, Pama, Sewacu, Sipo, Yuberi."

Zuruahá (Suruahá, Sorowahá) Brazil

Dení-Kulina

Dení (dialect: Inauini) Brazil

Culina (Kulína; Madihá, Madija, Corina) Brazil, Peru

Arawá* (Arua, Arauan) Brazil

Atacameño* (Cunza, Kunza, Atacama, Lipe Lican Antai) Chile, Bolivia, Argentina

(Local varieties: Apatama, Casabindo, Churumata, Cochinoca)

Awaké (Ahuaqué, Oewacu, Arutani, Uruák) Venezuela, Brazil

Ethnologue lists Arutani (Auaqué, Auake, Awaké, Uruak, Urutani, Aoaqui, Oewaku) as a member of their Arutani-Sape classification, a joining of the Awaké and Kaliana isolates. Dixon and Aikhenvald (1999: 20) list Awaké among the "few languages that we say nothing about, for the simple reason that almost nothing is known about them" (though see Migliazza 1978).

Aymaran (Jaqi, Aru) Bolivia, Chile, Peru (Cerrón-Palomino 2000)
Southern Aymara Bolivia, Peru, Chile
Central Aymara (Tupe branch) (dialects: Jaqaru and Cauqui [Kawki] Peru (Cerrón-Palomino 2000)

Baenan* (Baena, Baenño) Brazil

Baenan (Baena, Baen‹) Brazil
Baenan is very poorly attested; perhaps it should be moved to section 5, unclassified extinct languages.

Barbacoan Colombia, Ecuador
Northern group
Awan (Awa)
Awa Pit (Cuaiquer, Coaiquer, Kwaiker, Awa) Colombia, Ecuador
Pasto-Muellama
Muellama* (Muellamués) Colombia
Pasto* Ecuador, Colombia[25]
Coconucan (Guambiano-Totoró) Colombia
Guambiano (Mogües, Moguez, Moguex, Wam, Misak, Guambiano-Moguez, Namdrik)
Totoró (Totoro, Polindara)
Coconuco* (Kokonuko, Cauca, Wanaka)
Southern group
Cha'palaachi (Cayapa, Chachi, Nigua) Ecuador
Tsafiki (Colorado, Colima, Campaz, Tsáchela, Tsachila, Tsafiqui) Ecuador
Other exinct languages usually associated with Barbacoan are: Barbacoa (Colombia); Cara (Kara, Caranqui, Karanki, Imbaya) Ecuador; Pasto (Muellamués [Muellama]) (Columbia, Ecuador), Sindagua (Malla) (Colombia), and Coconuco (Colombia) (Adelaar and Muysken 2004:612). Mason (1950: 184) thought of Cara that "its affiliation will probably never be certainly known". However, Adelaaar (personal communication) points out that the Barbacoan affiliation of Cara is very likely based on place names and family names, very close to Pasto-Muellamues and Awa Pit. As he says, "the chances of establishing an affiliation is not as desperate as one may assume on the basis of the little that is known of the language".

Fabré (2005) is not convinced of the inclusion of Guambiano-Totoró in Barbacoan (supported with evidence by Curnow and Liddiccoat [1998] and Constenla [1991]), leaving open the possibility that the lexical matches presented could perhaps be due to contact.

Kaufman's (2007: 63–64) classification of Barbacoan is:

Barbacoan family:
Northern Barbacoan group: (Awa-)Coaiquer, Muellama, Pasto
Southern Barbacoan group: Cayapa (Chachi), Tsáfiki (Colorado, Tsáchela), Cara* (Caranqui), Itonama, Guarao.]

Betoi* (Betoy, Jirarra, Jirarru) Colombia[26] (Zamponi 2003)
Betoi consists of several dialects or related languages: Airico, Betoi, Ele, Jirara, Lolaca, Situfa (Adelaar and Muysken 2004: 161); their status is not certain.

Boran (Bora-Muinane)
Bora (Boro, Meamuyna; Miriña/Miranha) Peru, Brazil, Colombia
Muinane (Muinane Bora, Muinani, Muename) Colombia
Aschmann (1993) argues forcefully that Bora-Muinane belongs to Witotoan, though, others working with these languages believe much of Aschmann's evidence is due to borrowing, though perhaps some limited morphological evidence may suvive (Willem Adelaar, personal communication).

Bororoan
Eastern Bororo (Bororo proper, Boe) Brazil
Western Bororo Brazil
Umutina* (Umotina, Barbado) Brazil (Rodrigues 2007)
Otuque* (Otuké, Otuqui, Louxiru) Bolivia
(Dialects: Coraveca [Corave, Curave, Ecorabe], Curuminaca, Curumina, Curucaneca, Curucane, Tapii)[27]
Bororoan is usually included in the Macro-Jê hypothesis.[28]
Kaufman (2007: 72) has only Bororo, not Eastern and Western Bororo divisions.

Cahuapanan (Jebero, Kawapanan, Kahuapanan; earlier called Maina, Mainan) Peru
Cahuapana* (Cuncho, Chuncho, Concho, Chonzo)
Chayahuita (Chawi, Chayabita, Chayhuita, Balsopuertino, Paranapura, Cahuapa, Chayawita, Tshaahui, Tsaawí, Chayabita, Shayabit, Balsapuertino, Paranapura)
Jebero (Xebero, Chebero, Xihuila, Shiwilu)[29]
Adelaar and Muysken (2004: 447), Wise (1999: 308), and *Ethnologue* list Cahuapanan with only two languages, Jebero and Chayahuita

Camsá (Sibundoy, Sebondoy, Coche, Kamsá, Kamemtxa, Kamse, Camëntsëá, Mocoa, Quillacinga) Colombia

Cañar-Puruhá* Ecuador
Cañar* (Cañari)
Puruhá* (Puruguay)

These two languages are putatively related, though both are extinct with very little attestation on which to base comparisons (Adelaar and Muysken 2004: 396–397). Loukotka (1968: 363) placed them with several others in his "Chimú stock".

Candoshi (Candoxi, Maina, Kandoshi, Shapra, Murato, Roamaina) Peru
(Dialects: Shapra [Chapara], Kandoshi)

Rivet (1943) proposed several relatives of Candoshi among now extinct languages of northern Peru; most are unconvincing. Chirino has only four words recorded, but they seem sufficient to favor the Candoshi connection (Adelaar and Muysken 2004: 406; Torero 2002: 280–283). Loukotka (1968: 156) also had several others, including Chirino, in his "Murato stock": Shapra (Iñuru, Zapa), Pinche (Llepa, Uchpa, Avaza (see Taushiro, below, now considered an independent isolate), Sacata, and Rabona.[30]

Canichana* (Canesi, Kanichana, Canisiana) Bolivia

Cariban (Gildea, this volume)
- Venezuelan Branch (Gildea 2003)
  - Pemóng-Panare Macro-Group
    - Pemóng Group (Kapóng [Akawaio, Patamuna, Ingarikó], Makushi, Pemón [Taurepang, Kamarakóto, Arekuna])
    - Panare
  - Mapoyo-Tamanaku Macro-Group
    - Mapoyo/Yawarana (Mapoyo, Wanai, Yawarana, Pémono)
    - Tamanaku*
  - Pekodian Branch
    - Bakairí
    - Arara Group: Arara (Parirí), Ikpéng (Txikão)
- Subroups not yet classified in possible larger subgroups in the family:
  - Kumaná* (Chaima*, Cumanagota*)
  - Makiritare (De'kwana, Ye'kwana, Maiongong)
  - Nahukwa Group: Kuikúru, Kalapalo
  - Parukotoan Group
    - Katxúyana (Kaxuiâna, Shikuyana, Warikyana)
    - Waiwai Subgroup: Waiwai (Wabui, Tunayana), Hixkaryana
  - Taranoan Group
    - Tiriyo Subgroup: Akuriyo, Tiriyo, Trio
    - Karihona (Carijona)
  - Yukpa Group: Yukpa, Japréria
- Languages not yet classified within possible subgroups:
  - Apalaí
  - Kari'nja (Carib, Kalinya, Cariña, Galibi)

Waimirí Atroarí
Wayana

Gildea does not include most of the poorly known extinct languages in his classification (with the exception of Tamanaku and Kumaná). He mentions that the position of Yao may never be determined.

Gildea's classification (this volume) differs considerably from Kaufman's (2007) classification. Kaufman's has more detail, listing more of the extinct languages, but Gildea presents specific arguments in support of his internal classification of the family and against some of the branches and groupings in Kaufman's classification.

Kaufman's (2007) classification of Cariban languages is:

Cariban (from Kaufman 2007):
Opón-Carare* Colombia
Yukpa-Japrería language area Colombia-Venezuela
Yucpa (Yukpa, Yuco, Yuko, Yupa, Motilón)
Japrería (Yaprería) Colombia, Venezuela
Coyaima* (Tupe) Colombia

Adelaar and Muysken (2004: 112) give Yukpa as a dialect continuum: Iroka and Sokorpa, Macoita-Rionegrino, Pariri-Wasama-Shaparu, Irapa). (Viakshi is unclassified.)

Cariña group (Carib, Caribe, Galibí, Kalinha, Kalinya, Marawomo) Venezuela, Suriname, French Guiana, Guyana, Brazil
(Dialects: Murato [Myrato, Western Carib], Tyrewuju [Eastern Carib])
Tirió group (cf. Meira 2000)
Tirió subgroup
Akurio (Akoerio, Akuri, Akurijo, Akuriyo, Akuliyo, Wama, Wayaricuri, Oyaricoulet, Triometesem, Triometesen) Suriname
Tirió (Tirió, Piancotó, Pianakoto) Suriname, Brazil
Carijona (Karihona) subgroup
Jianácoto (Umaua) Colombia
Carijona (Karijona, Carihona, Omagua, Umawa)[31] Colombia
Salumá subgroup (Enawené-Nawé, Salumã) Brazil
Kashuyana (Kaxuiana) group
Kashuyana-Warikyana (Kashuyana, Kashujana, Kachuana, Warikyana, Warikiana, Kaxúyana) Brazil
(Dialect: Pawiyana, Pawixi, Pauxi)
Shikuyana (Sikiana) (Sikiâna, Shikiana, Sikïiyana, Chiquiana, Chikena, Chiquena, Xikujana, Xikiyana, said to be close to Salumá) Brazil, Guyana, Venezuela
Waiwai group[32]
Waiwai (Uaiuai, Uaieue, Ouayeone Brazil, Guyana

(Dialects: Katawian [Katwena, Katawina, Catawian, Catauian], Parucutu [Parukutu], Katuena, Cachuena))
Hixkaryana (Hixkariana, Hishkaryana, Parukoto-Charuma, Parucutu, Chawiyana, Kumiyana, Sokaka, Wabui, Faruaru, Sherewyana, Xerewyana, Xereu, Hichkaryana, Waiboi) Brazil
Yawaperí (Jawaparí) group:
Boanarí* (Bonari) Brazil
Yawaperí (Atroarí/Atroahí, Waimirí, Krishaná) Brazil
Ethnologue givies "Atruahí" (Atroaí, Atroarí, Atrowari, Atroahy, Ki'nya) as a separate language (with dialects: Atruahi, Waimirí [Uaimirí, Wahmirí], Jawaperi [Yauaperi]). Atroaí, Atroarí, Atrowari, Atroahy, Ki'nya. Dialects: Atruahi, Waimirí (Uaimirí, Wahmirí), Jawaperi (Yauaperi).
Paravilhana group
Sapará subgroup: Sapará Brazil
Paravilhana subgroup
Pawixiana* (Pauixiana, Pawishiana) Brazil
Paravilhana* Brazil
Pemón group
Pemón subgroup
Makuxí (Macuxí, Teweya, Makusi, Macusi, Makushi, Teweya, Teueia) Brazil, Guyana, Venezuela
Pemón (Pemong) Venezuela, Brazil, Guyana
(Dialects: Taulipang [Taurepan], Camaracota [Kamarakotó, Ipuricoto], Arecuna [Aricuna, Arekuna, Jaricuna, Jarekuna], Ingarikó [Ingaricó], Daigok, Potsawugok, Pishauco, "Purucoto", Kamaragakok)
Kapong language area (Capón, Akawayo, Akawaio, Acahuayo, Acewaio, Akawai, Acawayo, Acahuayo, Waicá, Ingaricó, Patamona,) Guyana, Brazil, Venezuela
Purukotó* (Purucotó) Venezuela, Brazil
Central Cariban
Cumaná group (Cumanagoto, Chaima [Chayma]): Cumaná Venezuela
Ethnologue treats Cumanagoto and Chaima as distinct languages.
Yao group
Tivericoto* Venezuela
Yao* Trinidad, French Guiana
Wayana group
Wayana (Upuruí, Ouayana, Oayana, Oyana, Oiana, Uaiana, Wayâna, Upurui, Alukuyana) Suriname, French Guiana, Brazil
(Dialects: Rucuyen [Roucouyenne], Urucuiana [Urucena, Urukuyana])
Arakajú* Brazil
Apalaí group (Apalay, Aparai): Apalaí Brazil

Mapoyo-Yavarana group (Tamanaco, Curasicana): Mapoyo-Yavarana
Venezuela

Ethnologue distinguishes several languages in this group: Mapoyo (Mapayo, Mapoye, Mopoi, Nepoye, Wanai), Yabarana (Yauarana, Yawarana), Pémono, and Tamanaku, together with Eñepa (Panare).

Maquiritari (Makiritare) group
Makiritare (Maquiritare, Maquiritari, Maquiritai, Mayongong Pawana [Pauana], Soto) Venezuela, Brazil

Ethnologue lists as dialects or alternative names: Cunuana, De'cuana (Wainungomo), Ihuruana, Maitsi, Mayongong (Ye'cuana, Yekuana), Pawana, Soto.

Wajumará* (Wayumará) Brazil

South Amazonian Cariban
Bakairí group Brazil
Bakairí (Bacairí, Kura, Kurâ)
Amonap (Kuikuro, Kalapalo, Matipú, Nahukuá)

Ethnologue has Kuikúro-Kalapálo (Kuikuru, Guicurú, Kurkuro, Cuicutl, Kalapalo, Apalakiri, Apalaquiri). It lists Matipuhy (Matipu, Mariape-Nahuqua) (with dialects: Matipuhy, Nahukuá (Nakukwa, Nafukwá, Nahuqua) as a separate language, "possibly intelligible with Kuikúro".

Arara group Brazil
Arara-Parirí* (Arára Pará, Ajujure) Brazil
Not to be confused with Arara do Jiparaná (Tupían).
Apiaká-Apingi* Brazil
Not to be confused with Apiaká (Tupían) in Mato Grosso.
Juma Brazil
Not to be confused with Juma in Amazonas (Tupían?).
Yarumá*
Txikão (Chicaon, Ikpeng, Txikân, Tunuli, Tonore)

Ungrouped Cariban languages:
Palmela* (Palmella) Brazil
Pimenteira* Brazil
Panare (Eñepa, Panare, Panari, Abira, Eye) Venezuela

For Patagón (or Patagón de Perico) of northern Peru only four words are known, but these are taken as sufficient to reveal a northern Cariban affinity, grouped perhaps with Carijona (Adelaar and Muysken 2004: 405–406). Adelaar and Muysken (2004: 114) list as other extinct languages of Colombia which sometimes have been thought possibly belonging to Cariban: Muzo-Colima, Panche, Pantágora, and Pijao, though the last of these may involve just Cariban influence rather than Cariban genetic affiliation. Several sources list Naruvoto as a Cariban language, but with no other information.

Cayuvava* (Cayuwaba, Cayubaba, Kayuvava) Bolivia

Chapacuran (Chapakuran, Txapakuran)
Itene group (Central Chapacuran)
Wanham (Wañam, Wanyam, Huanyam) Brazil
Kumaná (Torá, Toraz, Cumana, Cautario) [Abitana-Kumaná] Brazil
Kabixí (Cabishi, Cabichí, Habishi, Parecís, Pawumwa) Brazil
Itene (Iteneo, Iténez, Moré) Bolivia
Wari group (Southern Chapacuran)
Quitemo* (Quitemoca) [Kitemo-Nape] Bolivia
Chapacura* (Huachi, Wachi, Tapacura, Chapakura) Bolivia
Urupá-Jarú (Txapakura; Yaru, Jaru, Ituarupa) Brazil
Orowari (Pakaás-novos, Pacasnovas, Pacaha-novo, Uariwayo, Uomo, Jaru, Oro Wari) Brazil
Oro Win Brazil

Ethnologue says of its "Oro Win" that it is "related to Tora, Itene (More), and Pakaasnovos (Wari), but not inherently intelligible with them". It classifies its Pakaásnovos (Jaru, Uomo, Pakaanovas, Pacaas-Novos, Pakaanova, Pacahanovo, Oro Wari, Wari) as a distinct language from its "Oro Win". Some consider Wanham, Abitana, and Pawumwa to be synonymous names.

Torá Brazil

Adelaar and Muysken (2004: 614) list also as additional extinct languages which "belonged or may have blelonged" to Chapacuran: Herisebocona (Bolivia), Napeca (Bolivia), and Rocorona (Bolivia). Fabre (1998: 438) lists as additional Chapacuran languages: Kuyubí [Kujubim], Miguelehno-Wanyam (Huanham, Wañam; dialect: Abitana). He says the last in no longer mentioned in lists of these languages (but see Kaufman 2007: 65). Loukotka (1968: 160–161) had in addition to most of those mentioned here also in his "Chapacura stock": Itoreauhip, Mure, Mataua, Urunamacan, Tapoaya, Cujuna, and Yamarú.

Charrúan* Uruguay, Argentina, Brazil
Charrúa*
Güenoa* (Minuane)
Chaná* Uruguay

Adelaar and Muysken (2004: 614) and Viegas Barros (2009) list three separate Charrúan languages: Chaná, Charrúa, and Guenoa (Minuane). Other groups whose language(s) may have been associated with Charrúan and which are sometimes listed with Charrúan include: Balomar, Bohane, Calchine (Calchiné), Carcarañá (Caracaná), Cayastá (Chayastá), Colstiné, Corondá, Guaiquiraré (Guaiquiaré, Guaiquiraró), Mbeguá (Mbegua, Begua, Chana-Beguá),

Mepene, Mocoreta (Macurendá, Mocoretá, Mocolete), Pairindi (Pairindí), Quilvazá (Quiloazá), Timbú, Yaro (Yaró) (Adelaar and Muysken 2004: 614; Loukotka 1968: 61–62; Tovar 1961: 29). As Loukotka says, nothing is known of any of these except Charrúa, Chaná, and Güenoa, and very little is known of them. This Chaná is not to be confused with the Chané ethnic group who speak Chiriguano (Tupí-Guaranían), said to be former speakers of an Arawakan language who switched to a Guaranían tongue (Adelaar and Muysken 2004: 423, 430). Chané is a name applied to several small Arawakan groups (cf. Mason 1950: 216).

Chibchan (See Constenla Umaña, this volume)
- Paya (Pech) Honduras
- Core Chibchan
  - Votic
    - Rama (Melchora, Voto, Boto, Arama, Arrama) Nicaragua
    - Guatuso (Malecu) Costa Rica
  - Isthmic
    - Western Isthmic
      - Viceitic
        - Cabécar (Chirripó, Tucurrique, Estrella) Costa Rica
        - Bribri (Viceíta) Costa Rica
      - Teribe (Térraba, Tiribí, Tirub) Costa Rica, Panama
      - Boruca* (Brunca) Costa Rica
    - Doracic
      - Dorasque* (Chumulu, Gualaca) Panama
      - Chánguena* (Chánguina, Chánguene) Panama
    - Eastern Isthmic
      - Guaymíic Panama
        - Movere (Move, Guaymí, Penonomeño, Ngawbere/Ngäbere) (Dialects: Inland Bocas del Toro, Coastal Bocas del Toro, Chiriquí)
        - Bocotá (Murire, Muoi, Guaymí Sabanero, Movere Sabanero)
      - Cuna (Cueva, Paya-Pocuro, Kuna) Panama, Colombia
  - Magdalenic
    - Southern Magdalenic
      - Chibcha Colombia
        - Muisca* (Mosca, Chibcha)
        - Duit*
      - Tunebo (Uwa, Uw Cuwa; Tame, Sínsiga, Tegría, Pedraza) (Dialects: Cobaría, Tegría, Agua Blanca, Barro Negro)[33]
      - Barí (Motilón, Dobocubí, Cunaguasaya) Colombia, Venezuela
    - Northern Magdalenic

Arhuacic
Cogui (Cágaba, Kogi, Kogui, Coghui, Kagaba) Colombia
Eastern-Southern Arhuacic
Eastern Arhuacic Colombia
Damana (Guamaca, Sanká, Sanhá, Arsario, Malayo, Marocasero, Wiwa)
Kankuama (Atanques)
Ica (Bíntucua, Ika, Arhuaco, Bintuk) Colombia
Chimila (Chamila, Caca Weranos, San Jorge, Shimizya) Colombia

Constenla (this volume) finds there is enough evidence to show that two more languages are Chibchan, though their position in Chibchan subgrouping is not clear:

Huetar* Costa Rica
Antioqueño* Colombia (two varieties: Nutabe and Catío [not to be confused with the Emberá (Chocoan) variety called Catío]). Adelaar and Muysken (2004: 49, 614) list Nutabe (Colombia) also among extinct Chibchan languages.

Kaufman (2007: 64) groups Huetar (his Wétar) with Guatuso (Watuso) as a branch of his Central Chibchan group.

Tairona is often listed as probably a Chibchan language, though this is not certain; Constenla (this volume) believes it is a variant of Damana, still spoken. Kaufman (2007: 64) included it in his Arawako group of Eastern Chibchan, saying "Tairona, no longer an ethnic language, is said to be in use as the shamanic/priestly language of the Kogi". The Tairona were defeated in 1600 after long war with colonists; it is likely that the survivors took refuge with the Kogui after that (Adelaar and Muysken 2004: 52, 67). "It is not known to what extent the languages spoken by the Kogui and Tairona differed. The religious leaders of the Kogui claim knowledge of a ceremonial language called *Téižua*, and it is tempting to interpret this as a relict of Tairona" (Adelaar and Muysken 2004: 67). Loukotka (1968: 242) held that Tairona (Teyuna) was "now a secret language of the priests of the Cágaba [Kogui] tribe". Mason (1950) said:

> The long-extinct *Tairona* have generally been classified as *Chibchan*, doubtless because of their close geographical proximity to the *Chibchan*-speaking *Cágaba*. The same is true of the living *Chimila*, sometimes regarded as the modern descendants of the *Tairona* […] The language of the *Tairona* is utterly unknown; they may well have been *Cariban* or *Arawakan*. Reichel-Dolmatoff […] informs me […] that *Chimila* is *Arawakan*. *Arawakan* affinities of *Tairona* would not be unexpected, since they were coterminous with the *Arawakan*-speaking *Goajiro*.
> (Mason 1950: 187)

Tovar (1961: 181) says Teirona is not to be included with their Arawakan neighbors nor with "Kágaba" (Chibchan). He also mentions that Reichel-Dol-

matoff attributed an Arawakan character to Chimila, while Rivet placed "Chimila-Tairona" in the Dorasque group of Chibchan.

Chipaya-Uru (Uru-Chipaya, Uruquilla) Bolivia (Cerrón-Palomino 2006: 25–26)
Chipaya (erroneously earlier also called "Puquina") Bolivia
Uru (Uru of Iru-Itu, Uchumataqu, Iru-Wit'u, Uro) Bolivia
Chholo* (Murato) Bolivia (Muysken 2010; Schumacher et al. 2009)

Adelaar and Muysken (2004: 622) also mention Uru of Ch'imu (Peru) as another extinct member of the family. Kaufman (2007: 70) lists his "Uru-Chipaya language area" as a member of his Kechumaran stock. Loukotka (1968: 270) also included extinct Chango of Chile, though Tovar (1961: 49) says "we cannot classify the extinct language of the Changos [Chango y Uru Costeño], a people of the coast of northern Chile".[34]

Chiquitano (Besïro, Chiquito, Tarapecosi) Bolivia
(Dialects: Besïro [or Lomerío], Concepción, San Javier [Javierano], San Miguel, Santiago, Churapa, Sansimoniano, Tao)

Links with "Macro-Je" are postulated. Adelaar (2008), for example, presents concrete arguments for a genetic relationship between Chiquitano and Macro-Jê. Mason's (1950: 201) "Chiquitoan" had:
North: Chiquito
Manasí (Manacica)
Penoki (Penokikia)
Pinyoca
Kusikia
Tao
Tabiica
South: Churapa

He reported, however, that extinct Manacica had also been identified with Chapacuran languages.

Chocoan Colombia, Panama
Waunana (Noanamá, Huaunana, Woun Meu, Waun Meo, Waumeo, Wounmeu, Wounaan, Noanama, Noenama, Nonama, Chocama, Chanco)
Emberá dialect continuum (Catío, Chamí, Napipí River, Saija, Sambú)
Southern Emberá
Northern Emberá (Emperã, Eberã Bed'ea, Eperã Pedea, Atrato, Darién, Dariena, Panama Embera, Eberã, Cholo [Choco])

Ethnologue lists six distinct Emberá languages, two Northern: Emberá-Catío (Catio, Katio, Embena, Eyabida) and Northern Emberá (Empera, Ebera Bedea, Atrato, Darien, Dariena, Panama Embera, Cholo, Eerã); and four Southern: Emberá-Baudó (Baudó, Catrú), Emberá-Chamí (Chami), Epena (Emberá-Saija,

Saija, Epená Saija, Epéna Pedée, Southern Embera, Southern Empera, Cholo, with dialect Basurudó), and Emberá-Tadó (Embená Tadó). Several extinct language entities are sometimes classified with Chocoan: Sinúfana (Cenufara), Quimbaya (Kimbaya), Anserma (Anserna), Arma, Cenu, Cauca. Only eight words are known of Quimbaya; it may not be Chocoan. (See Adelaar and Muysken 2004: 56–60.) *Ethnologue* has Anserma, Caramanta, and Runa as separate languages.

Cholonan* (Hibito-Cholon) Peru (Adelaar and Muysken 2004: 460–462; Alexander-Bakkerus 2005)
Cholón* (Seeptsá, Tinganeses, Cholona)
Híbito* (Hibito, Xibito, Xibita, Jibito, Chibito, Zibito, Ibito, Xibitoana)[35]

Chonan (Tehuelchean, Chon family) Argentina, Chile (Viegas Barros 2005: 47–72)
Chonan proper
Island Chonan
Ona* (Selknam, Selk'nam, Shelknam, Aona) Argentina, Chile
Haush* (Manekenken) Argentina, Chile
Continental Chonan
Tehuelche (Aoniken, Aonek'enk, Inaquen, Patagón) Argentina
Teushen* (Tehues, Patagón) Argentina
Patagón Costero* (Viegas Barros 2005: 67).
Gününa-Küne* (Gennaken, Northern Tehuelche, Puelche, Pampa, Gününa Yajich) Argentina

Gününa-Küne is often listed as an isolate, though Viegas Barros (2005: 138–152) presents evidence of its remote affiliation with Chonan, not a member of that family per se but parallel, an "external relative".[36]

Viegos Barros (2005: 70–71) argues that Querandí, the long extinct and scarcely known language of the Buenos Aires region, may be related to Gününa Küne. Viegos Barros (2005: 68) also argues for the possibility that Enoo, known only from 16 words taken down by the Dutch sailor Olivier van Noort in 1599, was a "mixed" language, with more of the words belonging to some Chonan language, but others to Qawasqaran. Loukotka (1968: 44) gives Poya (Payo) as a member of his Patagon or Tshon stock, Languages of Patagonia division; Mason (1950: 310) and Tovar (1961: 22) consider it a dialect of northern Tehuelche. Viegas Barros (2005: 78) is of the opinion that Poya (Pogya, Huillapoya), known only from some dozen words, was a mixed language with elements from Mapudungun and Gününa Küne.

Chono* Chile (Viegas Barros 2005: 45–46, 83–107)

Extinct Chono from the northern Qawasqaran region is very poorly attested, principally from a catequism without translation. There has been confusion about its classification. Some reportedly Chono materials make it appear

to be a variant of Qawasqar (Alacaluf), but the material presented by Bausani (1975) from the eighteenth century catechism shows it to be different from Qawasqar (Adelaar and Muysken 2004: 553), a distinct language unrelated to others of the region. (Viegas Barros 2005: 83–107.)

Chono is also sometimes equated with Aksanás, another confusing term. Aksanás as identified today is one name for Northern Qawasqar. Loukotka (1968: 44) had an Aksanás stock with two languages, Chono (Caucau) and Kaueskar (Aksanás), not connected with his Alacaluf "isolated language" (Loukotka 1968: 43). This Aksaná(s) is left out of this classification, on the assumption that Clairis (1978: 32, 1985: 756) is correct in showing that the assumed Aksaná(s) language (not Qawasqar) does not really exist (see below for details). (This "Chono" is not to be confused with Llaras Samitier's [1967] erroneous "Chono" or Wayteka, see below.)

Cofán (Kofan, A'ingaé) Colombia, Ecuador

Sometimes grouped with Chibchan, but without justification. Kaufman (2007: 68) places it with Yaruro and Esmeralda (Tacame) in his "Takame-Jarúroan stock".

Culle* (Culli, Ilinga, Linga) Peru

Culle is sometimes thought be related to Cholonan (cf. Kaufman 2007: 69), but is so poorly documented that a determination of its genetic affinity is difficult; the primary sources on the language are two word lists, one of 19 words, the other of 43 (Adelaar and Muysken 2004: 401–403).[37]

Esmeralda* (Esmeraldeño, Tacame)[38] Ecuador

Seler (1902: 49–64) proposed a connection between Esmeralda and Yaruro. Loukotka (1968: 233–234) followed this, grouping Esmeralda together with Yaruro and Caraque (extinct, nothing known) in his Paleo-Chibchan group of his Chibcha Stock. Kaufman (2007: 68) places Esmeralda with Yaruro and Cofán in his "Takame-Jarúroan stock". Willem Adelaar (personal communication) finds some interesting similarities between Esmeralda and Yurumanguí, more plausible geographically,which need to be studied.

Gamela* (Barbados, Curinsi, Acobu) Brazil[39]

Gamela is very poorly attested; perhaps it should be moved to section 5, unclassified extinct languages.

Guach'* Brazil

Guach' is an extinct language of Brazil, often associated with Guaicuruan. Perhaps it should be placed rather in section 5, unclassified extinct languages.

Guaicuruan (Waikuruan, Waykuruan) Argentina, Paraguay, Brazil (Ceria and Sandalo 1995)
Kadiwéu (Caduveo, Mbayá, Ediu-Adig) Brazil
Southern Guaicuruan
Pilagá (Pilaca) Argentina
Toba (Qom, Namqom) Argentina, Paraguay
Mocoví (Mocobí) Argentina
Abipón* Argentina, Paraguay

Guachí (Brazil) and Payaguá (Paraguay), both extinct, are often attributed to Guaicuruan, but the evidence for this remains unclear. (See Viegas Barros 2004.) Mahoma (a.ka. Hohoma) was thought possibly related to Guaicuruan by Mason (1950: 205), following Métraux (1946: 225); this is probably the same as Loukotka's (1968: 63) Ohoma unclassified language.

Guajiboan (Guahiboan) (Kaufman 2007: 65)
Guajibo (Guahibo, Guaybo, Sikuani, Sicuani, Guajibo, Goahibo, Guaigua, Guayba, Wahibo, Goahiva, Hiwi) Colombia, Venezuela
(Dialects: Guahibo [Sikuani], Amorua [Rio Tomo Guahibo], Tigrero)
Cuiva (Cuiba, Cuiba-Wámonae) Colombia, Venezuela
(Dialects: Chiricoa, Masiware [Masiguare], Chiripo [Wupiwi, Siripu], Yarahuuraxi-Capanapara, Mayayero, Mochuelo-Casanare-Cuiba, Tampiwi [Mariposas], Amaruwa [Amorua], Mella, Ptamo, Sicuane [Sicuari])
Churuya* Venezuela
Guayabero (Cunimía, Jiw, Mítus, Mítua) Colombia

Kaufman (2007: 65) has these four languages in the family. *Ethnologue* lists five languages in the family: Cuiba, Guahibo, Guayabero, and additionally Macaguán (Macaguane, Hitnü, Jitnu, Agualinda Guahibo) and Playero (Río Arauca Guahibo). Fabre's (1998: 540) classification is more detailed:

Guayabero
Hitnü (Macaguane)
Cuiloto
Colorado
Guahibo central
Cuiba (Chiricoa, Iguanito, Cuiba de Mochuelo)
Cuiba
Maibén
Siripú
Capanaparo
Sikuani (Newüthü, Xuraxura)
Yamarero (Playero)
(H)amorua
Parawá

Waü
Yamodi

Queixalós (1993) affirms there is no genetic relationship between Guajiboan and Arawakan, though there are loanwords and possibly some areal influences.

Guamo* Venezuela[40]

Guató Brazil

Usually included in the Macro-Jê hypothesis, though this has recently been questioned (Ribeiro 2006).

Harákmbut-Katukinan (Adelaar 2000)

Harákmbut (Harakmbet, Hate, Tuyoneri, "Mashco") Peru

(Several dialects in two clusters, (1) Huachipaeri, Toyoeri (Tuyoneri, Tuyuneri); (2) Amaracaeri [Amarakaeri], Sapiteri, Arasaeri)

Other groups associated with Harákmbut include Arasairi and Kisamberi. *Ethnologue* sees Amarakaeri (Amarakaire, Amaracaire, "Mashco") and Huachipaeri (Huachipaire, Wacipaire, and also "Mashco") (with dialects: Huachipaire, Sapiteri, Toyeri [Toyoeri, Tuyuneri], Arasairi) as separate languages. Kaufman (2007: 65) lists the two as "emergent languages" in a "language area."

Katukinan (Catuquinan) Brazil (cf. Rodrigues 1986: 79, 81)

Katukina (Catuquina, Katukina do Jutaí) (dialect: Cutiadapa [Kutia-Dyapa]).

Dyapá (dialects or languages) – (Southern Katukinan, Tshom-Djapá [Txunhuã-Djapá], Canamarí, Kanamarí) (perhaps the same as Tucundiapa (Tucano Dyapa, Hondiapa/Hon-Dyapá)]).

Katawixí (Catawixi, Catauixi, Catawishi, Catauichi)

Aikhenvald and Dixon (1999: 343) have for Katukinan: Kanamarí, Katukina do Biá, Txunhuã-Djapá, and Katawixí. Adelaar (2007: 180) has two languages, Katawixi and Katukina Lato (which has three varieties: Kanamarí, Katukina do Biá, and Tyohon Dyapa).

Adelaar (2000, 2007) presents reasonably persuasive evidence that Harákmbut and Katukinan are genetically related.

Huarpean* (Warpean) (dialects or languages) Argentina

Huarpe* (Allentiac)
Millcayac*[41]

Irantxe (Iranxe, Iranche, Iranshe, Mynky, Münkü, Menki, Manoki, Myky) Brazil (Dialects: Münkü [Mynky, Menku, Menkü, Myy], Irántxe.)

Dixon and Aikhenvald (1999: 20) list Irantxe among the "few languages that we say nothing about, for the simple reason that almost nothing is known about them". The language, however, is not that unknown; see Meader's (1967) grammatical study with a vocabulary.

Itonama (Saramo, Machoto) Bolivia

Jabutían (Yabutían) Brazil
Jabutí (Yabutí, Jabotí, Djeoromitxí, Kipiu, Quipiu)
Arikapú (Maxubí, Aricapú)

Some have placed Jabutían with Macro-Jêan. Ribeiro and van der Voort (2010) argue for this hypothesis based on recent and more extensive documentation of the languages involved.

Jêan (Gêan, Jê family) (See Ribeiro 2006)
Northeastern Jê (Northern Jê)
Timbíra (Canela [Kanela], Krenjé, Krahó, Pykobyê) Brazil

Ethnologue has Krinkati-Timbira (with dialects Krinkati [Karakati] and Timbira). It gives Canela as a separate language, with dialects: Apanjekra (Apanhecra, Apaniekra), Ramkokamekra. It also lists as separate Gavião of Pará (Parakatêjê, Pukobjê), said to be related to Krikati-Timbira, Canela, Krahô; it also has Krahô and Kreye (Krem-Ye, Crenge, Crange, Creye, Crenye, Taze, Tage) as distinct languages.

Kreen-Akarore (Ipewí, Kren-Akarore, Creen-Acarore, Panará) Brazil
Apinajé (Apinayé) Brazil
Kayapó (Cayapó, Kokairmoro) Brazil (Dialects: Xikrin (Xukru, Diore), Kararaó, Kayapó-Kradaú)
Suyá (Dialects: Beiço de Pau (Tapayuna), Yaruma (Jarumá, Waiku))
Central Jê (Akwe branch)
Xavánte (Shavante, Chavante, A'uwe, A'we, Uptabi, Akuên, Akwen, Crisca, Pusciti, Tapacua) Brazil
Akroá* (Akroá-Mirim, Acroá, Koroá, Coroá) Brazil
Xerénte (Sherenté, Xerenti) Brazil
Xakriabá* (Chicriaba, Chakriaba, Shacriaba, Chikriaba) Brazil
Southern Jê[42]
Kaingang (Coroado, Coroados, Caingang, Bugre) Brazil, Argentina (Dialects: Paraná Kaingang, Central Kaingang, Southwest Kaingang, Southeast Kaingang)[43]
Xoklén g (Shocleng, Aweikoma, Bugre, Botocudos) Brazil
Ingáin* (Tains, Tain) Argentina
Wayaná* (Guayaná, Guayana, Gualachí, Guanhanan) Brazil

Rodrigues' (1999b: 167) Southern Jê also includes Ingaín, but not Wayaná.

The Jêan family is a core member of the languages usually included in the Macro-Jê hypothesis.

Jirajaran* Venezuela (all extinct)
Jirajara*
Ayomán* (Ayamán)
Gayón* (Coyón)
Loukotka (1968: 254) included in addition to these also Coyone and Cuiba, the latter now considered Guajiboan.

Jivaroan (dialects or languages) Ecuador, Peru
Shuar (Jívaro, Maina, Jíbaro) Peru, Ecuador
Aguaruna (Aguajun, Ahuajun) Peru
Achuar (Achual, Achuar-Shiwiar) Peru, Ecuador
Huambisa Peru
Kaufman (2007: 69) considers Jívaro a "language area" with two emergent languages, Jívaro [Hivaro] and Aguaruna [Awaruna] (Awahun). Adelaar and Muysken (2004: 616) and *Ethnologue* list the four Jivaroan languages given here. Palta (Eucador) is sometimes said to be related to Jivaroan (Loukotka 1968: 157), though Kuafman (2007: 69) says it "shows little resemblance". Adelaar and Muysken also list Xoroca (also called Palta) as Jivaroan, a hypothesis Torero (2002: 284–287) also appeared to favor. Malacato (Ecuador), another extinct language, is often associated with Jivaroan (Loukotka 1968: 157). Loukotka (1968: 157) considered Huambisa and "Achual", together with Antipa, Gualaquiza, Upano, Canelo (Penday), and Bolona, to be dialects of "Jíbaro" (Shuar). Torero (2002: 287) believed in a "Palta-Jíbaro" family, but where two branches needed to be distinguished, "Palta-Malacata" (perhaps also with Cumbinamá) and the Jíbaro branch.

Jotí (Yoana, Yuana, Yuwana, Waruwaru [Waruwádu (Loukotka 1969: 230)], Chicano, Chikano, Joti, Jodi, Hotí, Hodï) Venezuela
Martins (2005: 341) mentions that the data point to a probable Makúan affinity for Hodï, possibly connected with the Kakwa group of languages, but this is unconfirmed. (See Mattei-Müller, Henley and Reid 1996.) *Ethnologue* mentions possible connections to Yanomaman and Sáliban languages (Lewis 2009 [www.ethnologue.com/show_language.asp?code=yau]). Dixon and Aikhenvald (1999: 20) list "Hoti" among the "few languages that we say nothing about, for the simple reason that almost nothing is known about them". The language is not, however, as unknown as this makes it sound; see Vilera Díaz's (1987) study. Coppens (1983) saw a possible genetic connection with Sáliban for Jotí.

Kaliana (Sapé, Calianá, Cariana, Chirichano) Venezuela

Ethnologue (though no one else) lists this as a member of the Arutani-Sape family (of only two members); that is, it links the two isolates Awaké and Kaliana. See Migliazza ([1980] 1985: 51). Dixon and Aikhenvald (1999: 20) list "Sape" among the "few languages that we say nothing about, for the simple reason that almost nothing is known about them."] (Migliazza 1978, 1985.)

Kamakanan* Brazil

Kamakán* (Camacán) (languages or dialects)
Kamakán* (Kamakã, Camacán, Ezeshio)
Mongoyó* (Mangaló, Monshoko)
Kotoxó* (Kutaxó, Catashó, Cotoxó, Catathóy)
Menién* (Manyã)
Masakará* (Masacará)[44]

Typically listed as part of the Macro-Jê hypothesis (Ribeiro 2006).

Kapixaná (Kanoê, Capixana) Brazil.

Dixon and Aikhenvald (1999: 20) list Kanoé among the "few languages that we say nothing about, for the simple reason that almost nothing is known about them". This is no longer true; see Bacelar's (2004) grammar and a dictionary. A possible connection with Kwaza have been noted (van der Voort 2005).

Karajá[45] (Caraja, Xambioá, Chamboa, Ynã, Karayá) (dialects or languages) Brazil

Karajá-Xambioá* (Chamboa, Ynã)
Javaé (Javaje, Javae)

Ethnologue lists Karajá as a single language, but with alternate names: Xambioá, Chamboa, Ynã, and with Javaé (Javahe) as a dialect of Karajá. Ribeiro (2006) also has it as a single language, but includes four dialects: Southern Karajá, Northern Karajá, Javaé, and Xambioá.

Karajá is usually associated with the Macro-Jê hypothesis.

Karirían* (Karirí family) Brazil

Kipeá* (Karirí, Kiririˊ)[46]
Dzubukuá* (Kiriri, Dzubucua)
Sabuyá* (Sapoyá)
Kamurú* (Camurú, Pedra Branca)

Ethnologue gives, as a single extinct unclassified language (of Algoas, Brazil), Karirí-Xocó (Karirí, Kariri Xucó, Kipeá, Xokó-Karirí, Xukuru Kariri, Xukurú, Xocó, Xokó) with dialects: Kipeá (Quipea), Kamurú (Camuru), Dzubukuá (Dzubucua), Sabujá (Pedra Branca). Loukotka (1968: 89–90) included a number of names of extinct languages in his "Kiriri stock": Kariri (Quipea, Ca-

riri), Kiriri (Dzubucua, Quiriri), Sapuyá (Sabuya), Kamurú, Quesque, Abacatiara, Icozinho, Icó, Calabaça, Cariú, Corema, Jucá, Ichú (Ansus), Ariú (Peba), Bultrin, Quixexeu, Quixelu, and Aracapa. There has been some confusion about the names. Eduardo Ribeiro (personal communication) points out that the languages spoken by the "Cariri" tribes of Ceará are essentially unknown. The only Karirían languages for which there is any documentation were those spoken in Bahia and Sergipe (Kipeá, Dzubukuá, Sabuyá, Pedra Branca). Things are complicated by the fact that a vast semi-arid region in Ceará is called "the Cariri", after the ancient tribes of the region. Though colonial sources talk about "Cariri" Indians in Ceará, there is no linguistic evidence that they belonged to the same family as those from Northern Bahia. "Kiriri" meant 'shy, taciturn' in Tupí, and was probably applied to different tribes.

Karirían has been hypothesized to belong with languages in the Macro-Jê hypothesis (Ribeiro 2002, 2006; Rodrigues 1986).

Krenakan (Botocudoan, Aimoré language complex) Brazil

Krenak (Botocudo, Aimoré, Nakrehé, Nakpié, Naknyanúk, Etwet, Minyãyirún, Yiporók, Pojitxá, Potén, Krekmún, Bakuén, Aranã, Batachoa, Crenaque)[47]

Guêren* (Guerén, Gren, Borun, Borúm)

Usually included in the Macro-Jê hypothesis. Kaufman (2007: 72) lists as members of his "Aimoré language complex": Krenek (virtual language), Nakrehé* (virtual language), Guerén* (virtual language), and Rikbaktsá. The last of these may be a printer error.

Kwaza (Koayá, Koaiá, Quaiá, Arara) Brazil

Leco* (Lapalapa, Leko, Rik'a, Ateniano) Bolivia

Kaufman (1994, 2007: 70) groups Leco with Sechura-Catacaoan. The evidence for this hypothesis is not given.[48]

Lule-Vilelan* (Viegas Barros 2001)[49]

Lule* Argentina

Vilela(*)[50] Argentina

Colonial sources report that Lule was spoken by five "nations": Tonocoté, Lule, Ysistiné, Toquistiné, and Oristiné (cf. Adelaar and Muysken 2004: 386). The sources, however, are difficult to interpret, leaving the true linguistic identity of Tonocoté unclear. Loukotka (1968: 277) included in his "Lule stock": Lule, Tonocoté, Isistiné, Oristine, Matará (Amualalá), and Jurí, saying nothing was known of any of these except Lule itself. Mason (1950: 205) saw Juri (Suri) as "perhaps Guaicurú[an]" (not to be confused with Yurí [Jurí]).

Chunupí is commonly considered an alternative name for Vilela, though Loukotka (1968: 53) considered it a distinct language in his Vilela stock.[51] The

designation of "Chunupí" in historical sources is unclear, and the name has also been associated with Nivaclé (Chulupí, Ashlushlay; a Matacoan language), causing confusion.

Máko* (Maco, Makú, Macu) Brazil

This Máko is an isolate, not to be confused with the Makúan languages and other languages with similar names. (Migliazza 1978, 1985.)

Makúan (Makú family, Makú-Puinavean, Puinavean, Vaupés-Japura, Nadahup family, Guaviaré-Japurá family) (Martins 2005; Pozzobon 1997; Epps 2005)[52]

Eastern Makúan

Nadëb branch

Roçando Nadëb

Rio Negro Nadëb

Ethnologue has only one Nadëb language (with alternate names: Nadeb Macu, Makú Nadëb, Makunadöbö, Nadöbö, Anodöub, Kabori, Kabari, Xiriwai, Xuriwai); Martins and Martins (1999: 253) have a branch called "Nadëb-Kuyawi", composed of Nadëb and Kuyawi.

Dâw-Hupda-Yuhup

Dâw (Kamã, Kamã Makú, Kamarada, Makú-Kamarada) Brazil

Hupda-Yuhup

Hup (Hupda, Hupdë, Hupdá Makú, Macú de Tucano, Ubdé)

(Dialects: Hupdë, Tuhup, Nëhup)

Yuhup (Makú-Yahup, Yëhup, Yahup, Yahup Makú, "Maku") Brazil, Colombia

Ethnologue reports "limited intelligibility of Hupdë".

Western Makúan Brazil, Colombia

Kakua group

Kakua (Cacua, Bará, Macu de Cubeo, Macu de Guanano, Macu de Desano, Báda, Kákwa)

(Dialects: Vaupés Cacua, Macú-Paraná Cacua)

Nukak

Puinave (Wonsüht, Wãnsöhöt)

Martins and Martins (1999: 251) say Puinave "has sometimes been linked with Makú, as a Makú-Puinave family [Puinavean]. In fact, no genetic relationship between Makú languages and Puinave has as yet been proven." Aikhenvald (2002: 145) shares this opinion; *Ethnologue* lists Puinave as a language isolate, and Epps (2005) does not include Puinave in her "Nadahup" family. Martins (2005: 331) leaves open the possibility that the "Western Makúan" languages may be related to Eastern Makúan, but notes that the data available on these languaes are extremely scarce and it has not been possible to establish regular sound correspondences. Girón (2008)

also leaves the question open. Nevertheless, the cognate sets presented (Martins 2005: 331–341; Girón 2008: 428–433) confirm the relationship of Puinave, as well as Kakua and Nukak, with the Eastern Makúan languages.

Aikhenvald (2002: 145) would have Nadëp as one branch of the family, and Dâw, Hupda, Yuhup, Kakua, and Nukak as members of the other branch. Martins (2005: 341) mentions that the data point to a probable Makúan affinity also for Hodï, possibly connected with the Kakwa group of languages, but this is unconfirmed. (See Mattei-Müller, Henley and Reid 1996.)

Mapudungun (Mapudungu, Araucano, Mapuche, Maputongo, Chiledugu, "Auca") Chile, Argentina

Willem Adelaar (personal communication) points out that Huilliche ("Beliche", Veliche, Huiliche), often considered a dialect of Mapudungun, is likely a separate language. (Other Dialects: Ranquel, Neuquén, Rucachoroy, Río Negro, Chubut, Cautín, Mapocho [Mapuchu], Ngoluche [Moluche, Nguluche], Picunche, Pehuenche.) Loukotka (1968: 273–274) listed most of these as separate languages in his "Mapuche stock" (with the addition also of Chilote): Mapuche [Araucano], Picunche, Moluche [Nguluche], Huiliche [Veliche], Chilote [Chauquéz].)[53]

Mascoyan (Mascoian, Maskoyan, Lengua-Mascoy, Enlhet-Enenlhet) Paraguay (Fabre 2005; cf. Mason 1950: 279–280)

Guaná (Cashquiha, Kaskiha, Enlhet)

Sanapaná (Quiativis, Quilyacmoc, Lanapsua, Saapa, Sanam)

Ethnologue lists Sanapana and Angaite [Angate, Enlhit, Covavitis, Covahloc] as dialects.

Angaité (Enenlhet)

Enlhet (Lengua) dialects or languages

Enlhet (Lengua Norte)

Enxet (Lengua Sur, Lengua, Vowak, Enlhit, Enhlit)

Enenlhet (Mascoy, Mascoi, Machicui, Toba-Maskoy, Emok, Toba-Emok, Toba of Paraguay, Quilyilhrayrom, Cabanatith, Tujetge)

Note that the language names overlap and are not distinguished consistently for these languages and ethnic groups.

Matacoan (Mataco-Mataguayan, Mataguayan)

Chorote (Chorotí, Manjuy) Argentina, Paraguay

(Dialects: Iyo'wujwa, Yohwaha, Manjuy)

Nivaclé (Niwaklé, Chulupí, Ashlushlay) Paraguay, Argentina

Maká (Macá, Enimaca, Enimaga) Paraguay

Wichí (Mataco, Mataguayo, Weenhayek) Argentina, Bolivia

(Dialect: Nocten, Güisnay [Pilcomayo Wichí], Vejos [Vejoz, Aiyo, Hueshuo])

Matacoan languages are diversified on a scale similar to Germanic languages. The Matacoan and Guaicuruan families have often been thought to be linked in a larger Macro-Guaicuruan "stock", but the evidence presented so far for this is not sufficient to support such a classification.

Matanauí* (Matanawí, Mitandua, Moutoniway) Brazil
Some scholars have associated this with Muran (cf. Mason 1950: 285).

Maxakalían Brazil
Maxakalí (Mashakali, Maxacari)
Kapoxó* (Capoxo, Caposho)
Monoxó* (Monoshó, Monachobm, Menacho)
Makoní* (Maconí)
Malalí*
Pataxó* (Pataxó-Hanhanhain, Patasho)

Ethnologue does not distinguish all the Maxakalían languages as independent from one another; it has Caposho, Cumanasho, Macuni, Monaxo, and Monocho as alternative names of "Maxakalí". It considers "Pataxó Hã-Hã-Hãe" an unclassified language.

Usually Maxakalían is included in the Macro-Jê hypothesis.[54]

Mochica* (Yunga, Yunca, Chimú, Mochica, Muchic) Peru

Adelaar and Muysken (2004: 321) say that "for the time being, the Mochica language must be considered as a language isolate". It is often linked with extinct Cañar (Cañari) and Puruhá (Puruguay) of Ecuador, but there is virtually no attestation of these languages. (See Cerrón-Palomino 1995.) Kaufman (2007: 69), nevertheless, gives a "Chimuan family" made up of: Mochica, Kanyari, and Puruwá. Loukotka's (1968: 261–262) "Chimú stock" included Chimú and the following in his "Northern Languages" branch: Ayahuaca, Calva, Tumbi (Tumbez), Puná (Lapuna), Colonche, Chanduy, Tacame (Atacamez) [Esmeralda, now considered an independent isolate], Chongón, Coaque, Manabi (Manta) Huancavilca, Cañari, and Puruhá (Puruguai).

Mosetenan (languages or dialects) (Mosetén-Chiname) Bolivia
Chimane emergent language (Chiman, Tsimane, Chumano, Nawazi-Moñtji)
Mosetén emergent language (Rache, Muchan, Tucupi, Aparono)

Movima (Mobima, Moyma, Movime) Bolivia

Munichi* (Muniche, Munichino, Otanabe) Peru

Kaufman (2007: 68) places Munichi with Yurí and Tikuna in his "Juri-Tikuna Stock".[55]

Muran Brazil (Emergent languages or dialects)
Mura*
Pirahã (Pirahá)
Bohurá* (Buxwaray)
Yahahí*

Loukotka (1968: 95) lists Yahahí as Muran although he says nothing is known of this language.

Everett (2008) does not believe in a Muran family; rather, he believes that "Pirahã and the now extinct related dialect, Mura, form a single language isolate, unrelated to any other known language" (Everett 2008: 28), that they are "two very similar dialects of a single language" (2008: 29, see also 4). Mason (1950: 285) also considered the three listed here as dialects.

Nambikwaran (Nambicuaran, Nambiquaran, Nambikuaran) Brazil
Mamaindê (Northern Nambiquara, Mamande, Nakarothe)
(Dialects: Mamaindé, Negarotê, Tawanxte, Taxmainite, Taxwensite, Yalapmunxte [Lacondê, Latundê])
Southern Nambikuaran languages or dialects
Nambiquara (Nambikwara) emergent language
(Dialects: Manduka, Khithaulhu, Halotesu, Saxwentesu, Wakalitesu, Serra Azul, Hahaintesu, Wasusu, Alatesu, Waikisu, Galera)
Kithãulhú (Southern Nambiquara)
(Dialect complex: Kabishi, Nambiquara, etc.)
Sararé emergent language
Sabané (Sabanés)

Lowe (1999: 269) says the "Nambiquara family consists of three languages": Southern Nambiquara dialect complex, Mamainde/Nakarothe, and Sabanes. Price (1978) has three branches, Northern Nambikwaran, Southern Nambikwaran, and Sabané. The Northern Nambikwaran members are given as: Mamaindê, Negarotê, Tawandê, Latundê, and Lakondê. The Southern branch is divided in four dialect groups: Manduca (with the variants Siwaisu, Hunkutesu, Niyahlosu); Campo (with Kithãulhu, Wakalitesu, Halotesu, Sawentesu); Guaporé (with Hahãintesu, Waikisu, Alãntesu, Wasusu); and Sararé (also called Katitãulhu). *Ethnologue* has seven languages in its Nambiquaran family: Sabanês, Southern Nambikuára, and five languages in the Northern branch: Lakondê, Latundê, Mamaindé, Tawandê, and Yalakore. Telles and Wetzels (forthcoming) have Sabané as a separate branch, with a second branch which splits up into Northern Nambikwaran and Southern Nambikwaran.

Natú* (Peagaxinan) Brazil

Ofayé* (Opayé, Ofayé-Xavante, Opaié-Shavante, Ofaié) Brazil.
Usually included in the Macro-Jê hypothesis.

Omurano* (Humurana, Numurana) Peru
Loukotka (1968: 155) had two languages, Mayna (Rimachu) and Omurana (Hunurana) in his "Mayna stock" (potentially confused with Candoshi, Capanahuan, and Shuar). Hammarström (2011) has shown that "Maynas", often mistakenly listed with Omurano, is a separate language.

Otomacoan* Venezuela[56]
Otomaco*
Taparita*

Paezan
Paez (Nasa Yuwe, Paisa) Colombia
Paniquitá Colombia
(?) Panzaleo* (Latacunga, Quito) Ecuador
There is no consensus on Paezan, and opinions vary greatly. Paez is customarily placed together with Paniquitá and extinct Panzaleo; however, there are scarcely any data on Panzaleo and thus the classification has no real linguistic basis (Loukotka 1968: 245; Constenla 1991; Adelaar and Muysken 2004: 619). Adelaar and Muysken (2004: 618) consider Paez an isolate (with Caldono, Munchique, Paniquitá and Toribío as dialects). "Paezan", however defined, has been linked with Barbacoan and with Chibchan, though without good evidence. The Coconucan languages (Barbacoan) have also often been associated with Paezan.

Pankarurú* (Pancararu, Pancarurú, Brancararú, Pankarará, Pankarú, Pancaru, Pancaré, Pankaravu, Pankaroru) Brazil
Ethnologue mentions it is "possibly related to Kirirí [Karirían]".

Pano-Takanan (Kaufman 2007: 70–71)
Panoan (Fleck 2007: 140)
Mayoruna branch
Mayo group
Matses Peru, Brazil
Korubo (Chankuëshbo as co-dialect) Brazil
Dëmushbo Brazil
Kulina Brazil
Matis Brazil
Mainline branch
Kasharari Brazil

Core Mainline branch
Kashibo (Kakataibo as co-dialect) Peru
Nawa group
Chakobo; (Pakawara as co-dialect) Bolivia
Marubo subgroup
Marubo Brazil
Katukina Brazil
Poyanawa subgroup
Poyanawa Brazil
Iskonawa Peru
Nukini Brazil
Shipibo (with Konibo and Kapanawa as co-dialects) Peru
Headwaters subgroup
Kashinawa Peru, Brazil
Amawaka Peru, Brazil
Yaminawa Peru, Brazil, Bolivia
(Dialects: Sharanawa, Yawanawa, Shanenawa [Katukina de Feijó], Shawanawa [Arara], Mastanawa, Marinawa)

Kaufman's (2007:70-71) classification has other languages, several extinct, not included in Fleck's (see also Loos' 1999:229):

Panoan outliers
Kaxararí (Kaxariri) Brazil
Kulino (Culino, Culina) Brazil
Panoan main branch
Cashibo (Kashibo) group
Nocamán* (Nocomán, Nokamán) Peru
Cashibo (Cacataibo) Peru
Pano language area[57]
Pánobo* Peru
Huariapano* (Pano)
Shipibo group
Shipibo (Shipibo-Conibo) Peru
[Dialects: Shipibo, Conibo, Pisquibo, Shetebo (Setebo, Setibo, Xitibo, Xetebo, Manoita)]
Capanahua (Kapanawa) Peru, Brazil
Marubo (Marobo) Brazil
Waninnawa (Katukina) Brazil
[Not to be confused with Katukina of the Katukinan family]
Remo* (Sakuya, Kukuini) Brazil, Peru
Tushinawa* (Tutxinawa, Tuxinaua) Brazil
Tri-State group (Amawak-Jaminawa group)
Amahuaca (dialects or languages)

Amahuaca (Amawaka, Amehuaque, Sayaco, Ipitineri) Brazil
(Dialects: Inuvaken, Viwivakeu)
Isconahua (Iscobakebo) Peru
Cashinahua (Caxinawa, Kashinawa Kaxinawá, Tuxinawa) Peru, Brazil
Sharanawa (Marinahua, Mastanahua, Parquenahua) Peru, Brazil
Yaminawa (Yaminahua, Yawanawa, Morunahua) Brazil, Peru, Bolivia
Atsahuaca-Yamiaca* (Atsahuaca, Yamiaka) Peru
Parannawa* Brazil
Puinaua (Poyanawa) Brazil
Shipinawa* (Xipinahua) Brazil, Bolivia
Bolivian branch
Karipuna (Karipuná) Brazil
Pacahuara (Pacaguara) Bolivia
Chákobo (Chácobo, Shinabo) Bolivia, Brazil
Shaninawa* (Xaninaua) Brazil
Sensi* (Senti, Tenti, Mananahua) Peru
Mayoruna-Matsés (Matse, Matis) Peru, Brazil

Some other names sometimes listed with Panoan languages are: Panavarro, Purus, Arazaire, Cujareño (Peru), Mayo (Maia, Maya, Pisabo, Pisagua) (Brazil, Peru), and Nukuini (Nuquini [with dialect Cuyanawa]) (Brazil), (Adelaar and Muysken 2004: 419; Shell 1975: 14; Migliazza and Campbell 1988: 189–190; Rodrigues 1986: 77–81). *Ethnologue* has Sharanahua (Acre, Arara) as a distinct language (with dialects: Arinahua [Marináwa] and Chandinahua).

Takanan

Takana group
Tacana (Tupamasa) Bolivia
Reyesano (San Borjano, Maropa) Bolivia
Araona (Carina, Cavina) Bolivia
Cavineña Bolivia
Chama group
Ese'ejja (Ese'eha, Ese Ejja, Ese Exa, Tiatinagua, Chama, Tambopata-Guarayo, Huarayo, Guacanawa, Chuncho, "Chama") Bolivia, Peru
Toromona* (Toromono) Bolivia[58]

Others also list Chirigua (from the mission of San Buenaventura, El Beni Department, Bolivia) as a Takanan language. (Girard 1971: 41–2.)[59]

Payaguá* Paraguay

Payaguá is an extinct language of Paraguay, often associated with Guaicuruan. Perhaps it should be placed rather in section 5, unclassified extinct languages.

Puquina* (Pukina) Bolivia

Puquina was one of the three languages that were recognized in 1575 as a *lengua general* in colonial Peru, used for administration and for mission purposes. It had great prestige, but in spite of that, soon became extinct.[60] (See Adelaar, Middle Andes, this volume; Torero 2002: 389–404, 408–456.)

There is an old long-surviving misunderstanding according to which Puquina is considered to be closely related with Uru-Chipaya, although they have almost nothing in common. This error comes from the fact that Uru and Chipaya each have often been called "Puquina" (Adelaar 1989: 43, 175, 252; Mason 1950: 224; Olson 1964: 314). This error was pointed out and corrected long ago, and this correction has been repeated frequently (see Adelaar and Muysken 2004: 175; Chamberlain 1910; Ibarra Grasso 1958: 10, 1964: 37–33; and for details Campbell 1997: 189, 210). In spite of this, the mistaken classification of Puquina with Uru-Chipaya has often been repeated (for example, Crequi-Montfort and Rivet 1925–1926; Greenberg 1987: 84, 384; Noble 1965; Tovar 1961: 47–49, etc.; see also Mason 1950: 224–225).

Callahuaya (Machaj-Juyai, Collahuaya, Pohena) is a jargonized (or mixed) language based predominantly on lexical items from Puquina and morphology from Quechua, used by male curers who live in a few villages in the provinces of Muñecas and Bautista Saavedra, Department of La Paz, Bolivia, but who travel widely to practice their curing profession. It has generally been considered to be a much changed variety of (or relative of) Puquina.[61]

Purían* (Puri-Coroada) Brazil

Purí* (Coroado)[62]

Koropó* (Coropa)

Usually included in the Macro-Jê hypothesis. Ribeiro (2006) also includes extinct Coroado as a third Purían language.

Qawasqaran (Alacalufan) Chile

Qawasqar (Northern Alacaluf, Alacaluf, Kaweskar, Kawésqar, Kawaskar, Aksánas)

(Dialects: Kawésqar, Tawókser)

Alacaluf (Central Alacaluf, Hekaine)

Southern Alacaluf (Halakwalup, Pecheré)

The classification of Qawasqaran varies. Viegas Barros (2005: 37–43) presents a reasonable case that three languages need to be recognized in this family. Adelaar and Muysken (2004: 617) have Qawasqar (Alacaluf, Aksanás) as an isolate; Kaufman (1994: 67) has two emergent languages, Aksaná (Kaweskar) and Hekaine. (See discussion of Aksaná below.)

Viegas Barros (2005: 44) makes a good case that the language of the Guaïcaros (Guaicurúes, Huaicurúes, Supalios, Huemules) was a Qawasqaran language, fitting Central Alacaluf best, with Chonan loans.[63]

Quechuan Colombia, Ecuador, Peru, Bolivia, Argentina (Cerrón-Palomino 1987)
- Central Quechua (Huaihuash [Waywash]/Quechua I)
  - Pacaraos
  - Central Quechua
    - "Waylay" (Huailay, North)
      - Huaylas (Ancash)
      - Conchucos
    - Ap-am-ah
      - Alto Pativilca
      - Alto Marañón
      - Alto Huallaga (Huánuco)
    - "Wankay" (Huancay, South)
      - Yaru (Tarma, Junín)
      - Jauja-Huanca (Jauja, Huaycha Huanca, Huaylla Huanca [Huancayo])
      - Huangascar-Topará
  - Peripheral Quechua (Huampuy/Quechua II)
    - "Yungay" (Quechua IIA)
      - Central
        - Laraos
        - Lincha
        - Apurí
        - Chocos
        - Madeán
      - Northern
        - Cañaris-Incahuasi
        - Cajamarca
    - "Chinchay" (Quechua IIB-C)
      - Northern
        - Chachapoyas (Amazonas)
        - San Martín
        - Loreto
        - Ecuador
        - Colombia
      - Southern
        - Southern Peruvian Quechua
        - Ayacucho
        - Cuzco
        - Puno

Northern Bolivian Quechua
Southern Bolivian Quechua
Santiago del Estero Quichua ("Cusco") Argentina
Catamarca-La Rioja Quichua* Argentina

Willem Adelaar (personal communication) points out that the Yungay group in fact is not a unified grouping; it has no common innovations. Cañaris-Incahuasi and Cajamarca may group together (the former heavily influenced by Central Quechua), but Laraos is quite distinct. Lincha and Madeán may be a group. Also, Chachapoyas and San Martín form a group (Chachapoyas extremely innovative), and the other Northern varieties also group together.

Rikbaktsá (Aripaktsá, Erikbatsa, Erikpatsa, Canoeiro) Brazil.
Usually included in the Macro-Jê hypothesis.

Sabela (Huao, Wao, Auca, Huaorani, Huarani, Waorani, Auishiri) Ecuador
Loukotka (1968: 158) also included Tiwituey (Tuei) in his Sabela stock.

Sáliban (Sálivan, Sáliba-Piaroan)
Sáliva (Sáliba) Colombia, Venezuela
Piaroa (Piaroa-Maco, Wothüha, Guagua, Quaqua) Venezuela, Colombia
Mako

Kaufman (2007: 77) has only two Sáliban languages; he says "Piaroa and Mako may be distinct languages with mutual bilingualism". *Ethnologue* lists Maco (Mako, Itoto, Wotuja, Jojod) in Venezuela as a separate Sáliban language. Loukotka (1968: 151) listed as members of his "Piaroa stock" these three (Piaroa, Maco, Sáliva) plus extinct Ature, of which he said nothing was known.

Sechura-Catacaoan* (Sec) Peru
Sechura*
Sechura*
Tallán* (Atalán) (with varieties: Colán and Catacaos)

These languages are extinct and extremely poorly known; however, the probable cognates (see Adelaar and Muysken 2004: 400) offer a persuasive case for classifying Sechura and Tallán together in a single family. (see Adelaar, Middle Andes, this volume). Adelaar and Muysken, nevertheless, leave the question open because of the limited vocabulary available. Olmos (the languages of the oasis of Olmos) may also be connected (Adelaar and Muysken 2004: 320, 400). Loukotka (1968: 260) had two languages in his "Sechura stock": Sechura (Sec) and Tallan (Atalan), with a separate "Catacao stock" to which Colan was assigned along with Catacao and Chira (Lachira, Tangarará). Mason (1950: 195) distinguished Atalán and Tallán, saying "confusion and disagreement are great".

Taruma (Taruamá) Brazil, Guyana

Taushiro (Pinchi, Pinche) Peru

Taushiro was missed by most classifiers except Tovar (1961) – though not repeated in Tovar and Tovar (1984) – who grouped it with Omurano. Kaufman (1994: 63) notes certain lexical resemblances "that tend to support Tovar's claim". "Pinche" is grouped with Candoshi by Loukotka (1968) and Tovar and Tovar (1984), but Taushiro is considered Zaparoan in Kaufman (1994: 63). Kaufman (1994: 63) also reports Taushiro lexical similarities with Candoshi and with Omurano.

Tequiraca (Tekiraka, Aushiri, Auishiri, Avishiri, Avixiri, Abiquira, Abishira, Abigira, Agouisiri, Ixignor, Vacacocha)[64] Peru, possibly extinct (Adelaar and Muysken 2004: 456).

Tikuna-Yurí

Tikuna (Ticuna, Tukuna, Tucuna) Brazil, Colombia, Peru
Yurí (Jurí, Yuri, Xurúpixuna) Colombia, Brazil

Carvalho (2009) presents compelling evidence for a genetic affiliation between Tikuna and Yurí. Earlier attempts to group Yurí with either Arawakan or Cariban are not supported by the evidence, and a proposed grouping of Ticuna with Arawakan has also not survived scrutiny. Kaufman (2007:68) proposed to place Tikuna with Yurí and Munichi in his "Juri-Tikuna Stock."

Timotean* (Timote-Cuica) Venezuela (all extinct)
Timote-Cuica* (Miguri, Cuica)
Mucuchí-Maripú* (Mocochí; Mirripú)

It is not clear whether Timote and Cuica are separate languages or dialects of a single language. Timote may survive as Mutú (Loco, Mutús), an unstudied language (cf. Adelaar and Muysken 2004: 125; Fabre 1998: 803); Migliazza and Campbell (1988: 313) considered Mutú unclassified. Loukotka (1968: 253) included additionally also Mucutu (Bailadores), of which he said nothing was known, and Migurí.

Tiniguan* Colombia
Tinigua (Timigua)
Pamigua* [Pamiwa]

Adelaar and Muysken (2004: 620), following Loukotka (1968: 151), also place extinct Majigua (of which Loukotka said nothing is known) in Tiniguan. Earlier attempts to group Tinigua with Sáliban have been abandoned, according to Landaburu (2000: 30).

Trumai (Trumaí, Tramalhy) Brazil

Tukanoan (Tucanoan)[65]

For different views of the classification of Tukanoan languages, see Barnes (1999: 209); Ethnologue.com; Gomez-Imbert and Kenstowicz (2000: 420).

Western Tukanoan[66]

Coreguaje (Koreguaje, Caquetá, Correguaje, Ko'reuaju, Chaocha Pai) Colombia

Siona-Secoya Colombia

Macaguaje* (Makawahe, Piojé)[67]

Secoya (Piohé, Siona-Secoya)

Some have considered Secoya a variety of Macaguaje.

Siona

Teteté* (Eteteguaje) Ecuador, Colombia (Possibly a dialect of Siona)

Orejón (Maijuna, Coto, Koto, Payoguaje, Payaguá, Payagua, Mai Ja, Oregon, Orechon, Tutapi) Peru

(Dialect: Nebaji)

Retuarã (Letuama, Tanimuca-Retuarã) Colombia

Yahuna (Jaúna, Yauna) Colombia

Tama* Colombia

Tama is sometimes said to be perhaps a Koreguaje dialect (cf. Ethnologue.com).

In *Ethnologue* and Barnes (1999: 209), Secoya (Ecuador) and Siona (Colombia, Ecuador) are given as separate Western Tucanoan languages.

Eastern Tukanoan

Cubeo (Kubeo, Pamié, Cuveo, Cubeu, Kobeua, Kobewa, Kubwa, Kobéwa, Hehenawa, Pamiwa) Colombia, Brazil

Miriti* (Miriti-Tapuyo, Neenoá) Colombia

Macuna (Makuna, Buhagana, Baigana, Wuhána, Jepa-Matsi, Yepá-Mahsá, Yehpá Majsá, Yepá Maxsã, Yebamasã, Paneroa, Wahana, Makuna-Erulia) Colombia, Brazil

Yupuá-Duriña* (Yupua, Sokó, Uri, Duriña) Colombia

Kueretú* (Cueretú, Coretú, Curetú) Brazil

Desano-Siriano Colombia, Brazil

In *Ethnologue*, Desano (Desâna, Dessano, Wina, Uina, Wirã, Boleka, Oregu, Kusibi) and Siriano (Siriana, Siriane, Suryana, Surianá, Surirá, Sarirá) are distinct languages.

Bará-Tuyuka (Barasano, Tuyuca) Colombia, Brazil[68]

Carapano (Karapaná, Karapano, Carapana-Tapuya, Tatuyo, Mochda, Moxdoa, Mextã) Colombia, Brazil

Tucano (Tukano, Dasea, Daxsea) Brazil, Colombia

(Dialects: Yohoraa [Curaua], Wasona [Uasona])

Wanano-Piratapuyo (Guanano, Wanâna, Uanana, Anana, Kótedia, Kótirya, Kotiria; Wanana, Waikena, Waikina, Uiquina, Waikino, Pira-Tapuya, Uaikena, Uaicana, Waikhara, Waina, Uaiana, Uainana, Urubu-Tapuya) Brazil, Colombia

Ethnologue says Piratapuyo is close to Wanano linguistically (99 % lexical similarity) but ethnically distinct; the two groups do not intermarry. Kaufman (2007: 68) also lists Wanano and Piratapuyo ("Wanana-Pirá") as a single language.

Arapaso* (Arapaço, Arapasso, Koneá)

Adelaar and Muysken's (2004: 620–621) list of Tucanoan languages includes: Angutero, Bará (Waimajã), Barasano (including Taiwano [Taiguana] (Eduria)); Carapana, Cubeo, Desano, Koreguaje-Tama, Macuna (Sara), Makaguaje, Matapí, Orejón (Maijuna, Coto), Piratapuyo, Pisamira, Secoya (Piojé, Pai Coca), Siriano, Siona (Pai Coca), Tanimuca-Letuama (Retuarã), Tatuyo, Teteté, Tucano (Ye pa Masa), Tuyuca, Yahuna (Yauna, Yayuna), Yurutí, plus the additional extinct Tukanoan languages Icaguate and Encabellado. *Ethnologue* includes extinct Miriti (Miriti-Tapuia, Miriti Tapuyo, Neenoá) as a separate branch of Tucanoan; it has Tanimuca-Retuarã (Retuama, Retuarã, Letuama, Letuhama, Ufaina, Uairã) as a distinct Western Tucanoan language, and Yahuna (Yayuna, Yauna) (with dialects Opaina and Datuana) as an "unclassified" member of Eastern Tucanoan.

A major difference of opinion about the classification of Tukanoan concerns whether there is a separate "Central Tukanoan" branch (with Kubeo [Cubeo] as its principal member). Franchetto and Gomez-Imbert (2003: 233) have criticized "Central Tukanoan" for grouping the northernmost language (Kubeo) and a southern one (Tanimuca/Retuarã) without clear evidence, on pseudo-geographical criteria among others (see Gomez-Imbert [1993] for details).

Tupían (Rodrigues and Cabral, this volume)

Western Tupían

Arikém subfamily Brazil

Arikém (Ariquême)

Kabixiána

Karitiána (Caritiana)

Mondéan subfamily Brazil

Paitér (Suruí, Suruí do Jiparaná, Suruí de Rondônia, Surui Paiter)

Cinta-larga

Gavião (Digüt, Ikõrõ, Gavião do Jiparaná)

Zoró

Mondé (Sanamaikã [Sanamaicá], Salamãi)

Aruá (Aruaxi, Aruashí)

Puruborá (Boruborá, Puruba, Aurã, Pumbora, Puroborá, Burubora, Kuyubi, Cujubi, Migueleno, Miguelenho) Brazil

Kaufman (2007: 75) lists Puruborá as an unclassified Tupían language.

Ramaráman subfamily Brazil

Káro (Arara, Urukú)

Ramaráma (Itogapúk, Ntogapíd)

Urumí

Tuparían subfamily Brazil

Tuparí

Kepkiriwát (Quepiquiriuate, Kepikiriwat, Kepkeriwát)

Makuráp (Macurap, Macurape)

Mekéns (Mekém, Sakurabiat, Sakyrabiat)

Akuntsú (Akunsú)

Waratégaya (Amiapé)

Wayoró (Ayurú, Wayru, Wayurú, Ayurú, Ajurú, Uaiora, Wajaru)

Mekens

Ethnologue lists Sakirabiá (Sakirabiát, Sakirabiáp, Sakiriabar, Sakirabiák, Sakirap) as a separate Tuparían languages.

Eastern Tupían

Awetí (Auetö, Awetö, Aueto, Aueti, Auiti, Arauite, Arauine) Brazil

Kaufman (2007: 74) lists Awetí as an unclassified Tupían language.

Jurúnan subfamily Brazil

Jurúna (Yuruna, Yudjá, Djudjá, Jaruna)

Manitsawá (Maritsauá, Manitzula) (Dialect: Arupai [Urupaya])

Xipáya (Shipaya, Shipaja, Xipaia)

Mawé (Maué, Sataré, Sateré, Sateré-Mawé) Brazil

Mundurukún subfamily Brazil

Kuruáya (Caravare, Curuaia, Kuruaia)

Mundurukú (Mundurucu, Monjoroku, Weidyenye, Paiquize, Pari, Caras-Pretas)

Tupí-Guaranían subfamily

Guaranían Branch

Guaraní Antigo (Guaraní, old Guaraní) Brazil

Paraguayan Guaraní (Guaraní, Guarani paraguaio, Avañee), Argentina, Brazil, Paraguay

Kaiwá (Kayowá, Kaiowá, Caiová, Caiguá, Pãi, Pãi-Tavyterã) Brazil, Paraguay

Nhandéva (Ñandeva, Chiripá) Argentina, Brazil, Paraguay

Xetá (Shetá, Aré, Notobotocudo) Brazil

Chiriguano group (Ava, Simba, Chané, Izoceño [Isosó, Izozó], Tapiete) Argentina, Bolívia, Paraguay (Dietrich 2007)[69]

Guayakí (Guayaquí, Aché, Axe) Paraguay
Ethnologue groups Pai Tavytera and Ñandeva together as a single branch (called "Guarani I") within Tupí-Guaranían.
Guaráyoan Branch
Guarayo (Guarayú) Bolivia
Sirionó Bolivia
Yúki (Yuqui) Bolivia
Tupi Branch of Tupí-Guaranían
Língua Geral Amazônica (Língua Geral, Nheengatú, Tapïhïya, Tupi moderno) Brazil, Colômbia, Venezuela
Língua Geral Paulista (Língua Geral, Tupí) Brazil
Tupí (Tupi antigo) Brazil
Tupinambá (Língua brasílica, Tupi antigo) Brazil
Teneteháran Branch Brazil
Avá (Canoeiro, Avá-Canoeiro)
Tapirapé
Parakanã (Paracanã, Apiteréwa)
Tocantins Asuriní (Assurini, Asuriní do Tocantins, Asuriní do Trocará, Akwáwa)
Suruí (Suruí do Tocantins, Aikewara, Mudjetíre)
Tembé (Tenetehára)
Guajajára (Tenetehára)
Turiwára (Turiuara)
Xingu Branch
Araweté
Amanajé (Amanage, Amanayé, Amanyé, Manajo, Manaxo, Manaze, Manazo)
Ararandewára
Aurê (Aurá)
Anambé of Cairarí
Xingu Asuriní (Assurini, Asuriní do Xingu, Asuriní do Coatinema, Awaeté)
Kawahíb Branch Brazil
Amondáwa (Amundáwa)
Uruewawáu (Uru-eu-wau-wau, Uru-eu-uau-uau)
Karipúna

Ethonogue lists two languages, Karipúna (Karipúna do Amapá, Karipúna do Uaçá) and Karipuna (Caripuna, Jau-Navo, Juanauo, Kagwahiva, Karipuná de Rondônia, Karipuná do Guaporé), both in the same subgroup. There is also a Panoan Caripuna, listed by Loukotka (1968: 174) with alternative names Jaunavô, Shakáre, Éloe, and Yacaría. There is a confusion with this name, assigned to two separate language families, which needs to be resolved.

Piripkúra
Diahói (Diahui, Jahoi, Jahui, Diarrui)
Parintintín (Parintintim, Kagwahív)
Tenharín (Tenharim)
Tupí-Kawahíb (Tupi do Machado, Paranawát, Pawaté, Wiraféd)
Ethnologue has Paranawát and Wiraféd as independent languages.
Apiaká (Apiacá)
Júma (Yuma)
Kayabí (Caiabi)
Ethnologue puts Kayabí together with Araweté and Xingu Asuriní, languages listed here in the Xingu Branch, above.
Kamayurá (Kamaiurá, Camaiurá) Brazil
Northern Tupí-Guaranían Branch
Anambé of Ehrenreich Brazil
Guajá (Awá, Avá, Awá Guajá, Ayaya, Guaxare, Wazaizara) Brazil
Ka'apór (Urubú, Urubú-Ka'apór, Kaapor) Brazil
Takunyapé (Taconhapé) Brazil
Wayampí (Oyampi, Wajãpi, Waiãpi) Brazil, French Guiana
Wayampipukú Brazil
Emérillon (Emerenhão, Emereñon, Emerilon, Melejo, Mereo, Mereyo, Teco) French Guiana
Zo'é (Zoé, Jo'é) Brazil

Ethnologue has a rather different classification, with a number of different language names: Mbyá (Bugre, Mbiá, Mbua), Morerebi, Tukumanféd, Uru-Pa-In. It places with languages here listed in the Tupí branch of Tupí-Guaranían also Cocama-Cocamilla (Huallaga, Kokama, Pampadeque, Pandequebo, Ucayali, Xibitaoan), Omagua (Agua, Anapia, Ariana, Cambeba, Cambeeba, Cambela, Campeba, Canga-Peba, Compeva, Kambeba, Macanipa, Omagua-Yete, Pariana, Umaua, Yhuata), said to be "most similar to Cocama-Cocamilla", Potiguára (Pitonara), and Tupinikin (Tupinaki, Tupinikim, Tupiniquim). (Crevels, this volume, lists Potiguara [Potyguara] as "unclassified".) *Ethnologue* lists Pauserna (Guarayu-Ta, Paucerne, Pauserna-Guarasugwé), an extinct language of Bolivia, as an independent branch of Tupí-Guaranían, and it groups Jora (Hora), another extinct Bolivian language, with Guarayu and Siriono-Jora II.

Cabral (2007) argues that Kokáma/Omágwa (Cocama-Omagua) is not a Tupí-Guaranían language and in fact cannot be classified at all, that it is rather a mixed language to which at least four different languages contributed, though "most of the basic vocabulary of Kokáma/Omágwa is of Tupí-Guaraní[an] origin" (Cabral 2007: 375).

Tuxá* (Tushá, Todela) Brazil (Cf. Loukotka 1968: 87–88.)

Urarina (Simacu, Kachá, Itucale, Urariña, Oruarina) Peru[70]

Wamoé* (Uamué, Huamoi, Umán, Uame, **Huamoé**, Araticum, Atikum, Aticum) Brazil

Warao (Guarao, Warau, Warrau, Guaruno, Waraw, Araote, Faraute) Guyana, Suriname, Venezuela

Loukotka (1968: 227) added also to his "Uarao stock": Guanoco, Chaguan, and Mariusa, saying that nothing was known of the first two. Mason (1950: 253) mentions these plus Waikerí (Guaiquerí).

Witotoan (Huitotoan) (Aschmann 1993)
Ocaina Peru (Dialects: Dukaiya, Ibo'tsa)
Early Huitoto
Nipode (Huitoto Muinane, Nïpode, Nüpode Huitoto) Peru
Minica-Murai
M~~i~~n~~i~~ca (Huitoto Meneca) Colombia
Murui (Huitoto Murui, Murai, Búe) Colombia, Peru

Adelaar and Muysken (2004: 164) consider Nonuya also a Witotoan language. Aschmann (1993) argues that Bora belongs to Witotoan; However, Willem Adelaar points out to me (personal communication) that others working with Bora (Miriña) and Witotoan languages believe much of Aschmann's evidence is due to borrowing, though some limited morphological evidence might be suggestive of the relationship, but by no means conclusive proof. Kaufman (2007: 69) includes in his "Witótoan": Andoquero*, Coeruna*, Ocaina, Nonuya*, Murui[-Witoto], Koihoma (Coixoma, Coto, Orejón), Minica (Meneka[-Witoto], and Andoque.[71]

Xukurú* (Xucuru, Ichikile, Shukurú) Brazil[72]

Loukotka (1968: 89) listed two additional extinct members of his "Shukurú stock": Paratió (Prarto), of which only a few words are known, and Garañun, of which nothing is known. Of his six comparisons between Shukurú and Paratió, three are very similar, *mãzyé/mazya:* 'tobacco', *kiá/kiá* 'sun', and *sheñupre/sheñup* 'man', and three are rather different, *chilodé/vovó* 'tooth', *bandalák/bolúdo* 'ear', *klari:mon/limolago* 'moon'. Clearly no solid conclusion about classification is warranted here. Some of these comparisons could involve loanwords, e.g. 'tobacco' and 'sun'. Crevels (this volume) considers Xukuru unclassified.

Yagan (Yahgan, Yaghan, Yamana,Yámana, Tequenica, Yapoo) Chile

Yaguan (Peban, Peba-Yaguan family)
Yagua (Yihamwo, Nijyamïï, Nikyejaada, Yahua, Llagua, Yava, Yegua, Mishara) Peru, Brazil
Peba* (Nijamvo) Peru
Yameo* (Llameo, Camuchivo, Masamae, Mazan, Parara) Peru[73]

Yanomaman (Yanomamian)
Ninam (Yanam, Xirianá, Shiriana Casapare, Jawaperi, Crichana, Jawari) Brazil, Venezuela
Sanumá (San+má, Sanma, Tsanuma, Guaika, Samatari, Samatali, Xamatari) Brazil, Venezuela (Dialects: Ninam (Shirishana, Mukajai), Northern Ninam (Shiriana, Uraricaa-Paragua), Caura, Ervato-Ventuari, Auaris; Yanoma, Cobari [Kobali, Cobariwa])
Yanomam (Waiká [Waicá], Yanomami, Yanomamé, Surara, Xurima, Parahuri, Yanoam) emergent language Brazil
(Dialects: Yanamam [Patimitheri, Waika], Yanomam [Naomam, Guadema, Wadema, Warema], Yanomay [Tootototobi], Nanomam [Karime], Jauari [Joari, Yoari, Aica])
Yanomamö (Yanomamï, Yamomame, Guaicá, Guaharibo, Guajaribo, Yanomami, Shamatri, Shaathari, Cobari Kobali, Cobariwa) emergent language Venezuela, Brazil
(Dialects: Eastern Yanomami [Parima], Western Yanomami [Padamo-Orinoco])
(Migliazza 1972)

Yaruro (Pumé, Llaruro, Yaruru, Yuapín) Venezuela
Kaufman (2007: 68) places the language with Cofán and Esmeralda in his "Takame-Jarúroan stock".

Yaté (Fulnio, Furniô, Fórnio, Carnijó, Iaté, Yathé) Brazil.
Usually included in the Macro-Jê hypothesis.[74]

Yuracaré (Yuracare, Yurucar, Yuracar, Yurujure, Cuchi, Enete) Bolivia

Yurumanguí* (Yurimanguí) Colombia
Loukotka (1968: 259) gave as languages in his "Yurimangui stock": Yurimangui, Timba, Lili, Yolo (Paripazo), Jamundi, and Puscajae (Pile).

Zamucoan
Ayoreo (Ayoré, Moro, Zamuco, Pyeta, Yovai) Bolivia, Paraguay
(Dialect: Tsiricua, Tsiracua)

Chamacoco (Ishiro, Jeywo) Paraguay

(Dialects: Chamacoco Bravo [Tomaraho, Tomaraxa, Tumarahá], Ebitoso [Ebidoso, Ishiro])

Adelaar and Muysken (2004: 623) give Guarañoca as an extinct language belonging to Zamucoan, possibly a dialect of Ayoreo. Loukotka (1968: 58–59) listed several names as separate languages related to Ayoreo and names of several dialect of Chamacoco.

Zaparoan (Adelaar and Muysken 2004: 622)

Andoa* (Shimigae) Peru
Arabela Peru
Cahuarano* Peru
Iquito Peru
Záparo (Kayapi) Peru
Gae* Peru
Coronado*
Oa* Ecuador

Kaufman (2007: 69) has three languages in this "Sáparo"family: Sáparo-Konambo [Záparo-Conambo], Arabela-Andoa, and Ikito-Kawarano [Iquito-Cahuarano]. *Ethnologue* lists seven distinct Zaparoan languages: Andoa (Shimigae, Semigae, Gae, Gaye), Arabela, Aushiri, Cahuarano, Iquito (Iquita, Ikito, Amacacore, Hamacore, Quiturran, Puca-Uma, with the dialect: Pintuyacu), Omurano, Záparo. Loukotka (1968: 159) gave Conambo as distinct from Záparo, and in addition to others mentioned in these lists, had also Asaruntoa and Aunale (both extinct with nothing known of them).

Stark (1985: 184–186) also lists Aushiri (Auxira) and Omurano (Humurana, Numurana, Umurano, Mayna), both in Peru, as Zaparoan languages. Kaufman (2007: 69) grouped the Zaparoan and Yaguan families together in his "Sáparo-Yawan stock", with Taushiro and Omurano apparently in his Yaguan [Yawan] family (though this could be a printing error). He mentions that Taushiro could be "related to both Omurano and Kandoshi, and more closely to the former".

5. Unclassified extinct languages and others with too little documentation to permit adequate classification

Some extinct or little known languages are so poorly attested that it is impossible to classify them. Numerous language names cannot be classified for lack of data or information. These include the many names of languages mentioned in historical sources but otherwise unknown. Possibly some of these refer to languages known today by other names; probably some have to do with names of towns or clans or

subdivisions of groups known by other names. (See Adelaar and Muysken 2004; Campbell 1997; Migliazza and Campbell 1988; McQuown 1955.) Also, there is the possibility that many languages may have disappeared without even their names being recorded (see, for example, Viegas Barros [2005: 80]).

Some languages have sometimes been classified on circumstantial evidence, though they became extinct with little or no preserved record, for example Maromomim and Waitaká, thought to belong to the Purían family (associated with the Macro-Jê hypothesis [Rodrigues 1999b: 166]). Extinct and extremely poorly known languages of northwest Argentina include: Diaguita (Cacan, Kakán; with subdivisions Calchaquí, Capayán, Catamarcano, Hualfín, Paccioca [Pazioca], Pular, Quilme, Yacampis) (northwest Argentina and northern Chile) (Adelaar and Muysken 2004: 405; Tovar 1961: 31). Loukotka (1968: 275–276) proposed a "Diaguit stock" in which he placed several extinct and scarcely known languages: Diaguit (with 4 named dialects), Calchaquí [Cacan, Tocaque] (with 5 named dialects), Cupayana [Capayana], Amaná, Chicoana [Pulare], Indama [Ambargasta], and Copiapó. He said nothing is known of the last five of these, and "only a few words and patronyms" were recorded for Calchaquí, though hundreds of names of Diaguita leaders and warriors were recorded in accounts of the Diaguita war of the 17th century (Willem Adelaar, personal communication). The Quebrada de Humahuaca, Argentina, is assumed to have had a language usually called Humahuaca (or Omaguaca) (with apparent subdivisions: Fiscara, Jujuy, Ocloya, Osa, Purmamarca, and Tiliar). In spite of the paucity of data, Loukotka (1968: 276) postulated an "Humahuaca stock" with members: Humahuaca (Omaguaca), Ocloya, Jujui, Casavindo, Cochinoca, and Churumata. He said of these that nothing was known of the last four and only a few patronyms were available for the other two. A weak possible connection between the "Humahuaca" language and Atacameño has also been suggested, on the basis of a possible interpretation of a personal name (Adelaar and Muysken 2004: 409–410). Mason (1950: 302) proposed an "Ataguitan" grouping which was to include Atacameño, Diaguita, and Humahuaca, though this classification was never generally accepted (Adelaar and Muysken 2004: 27). On the basis of toponyms ending in *-cat/-cate* (and *-cot/-cote, -gat/-gate, -got/-gote*) Torero (1989: 236–237) postulated the existence of a language in northern Peru in the provinces of Cajamarca, Celendín, and San Marcos. Nothing significant is known of this language (Adelaar and Muysken 2004: 405).

Some of the extinct or little known languages and poorly known language names follow (see Adelaar and Muysken 2004: 119, 623; Fabre 1998: 359; Loukotka 1968: 63, 86–87, 92–93, 165–168, 196–198, 228–230, 259, 272–273; Mason 1950; Migliazza and Campbell 1988: 311–316; and *Ethnologue* [ethnologue.com]). Over 400 are listed, though the number is misleading. Probably a good number of these involve mistaken interpretations of place names, ethnic names, or alternative terms for languages known by other names (see examples below). Ochosuma (Uchuzuma) provides a good example – it is just a historical

name for the Uru ethnic group. Loukotka (1968: 270) for a change got this right; he considered Ochozuma an alternate name for "Uro" (Uru). Mason (1950: 225), however, believed it "had best be left with the unclassified languages". It had often been thought to be a dialect of Puquina (or Uru), due to the frequent mistake of classifying Puquina with Uru (Tovar 1961: 48) (cf. Adelaar and Muysken 2004: 363).

Some of the languages of which little is known listed above in the classification perhaps also belong here in this list, listed in the classification more by convention, following others who list them as part of the overall classification of SA languages, than because they might be significantly different in some way from those of the following list. Other names could be added to this list, also.

Aarufi Colombia (Loukotka 1968: 196).

Aburuñe Bolivia (Loukotka 1968: 165).

Acarapi Brazil (Loukotka 1968: 196).

Aconipa (Tabancal, Tabancara), Ecuador. Only five words are known of this language, which reveal no significant affinity to other languages and so it remains unclassified (Adelaar and Muysken 2004: 406; Torero 2002: 287). Loukotka (1968: 261) listed it as an isolated language. Mason (1950: 193) said Aconipa was "extinct, the data on it are very few, and insufficient to warrant its classification, at any rate as a distinct family".

Aguano (Awano, Ahuano, Uguano, Aguanu, Santa Crucino) Peru. Loukotka (1968: 146) classified Aguano as a member of the Chamicuro Group of his "Arawak Stock"; nothing was known of the language. Migliazza and Campbell (1988: 311–316): unclassified for lack of data (cf. also Tovar 1961: 67). Mason (1950: 271) gives a classification for the Aguano group: Aguano Proper (with Seculusepa [Chilicawa] and Melikine [Tivilo]), Cutinana, and Maparina.

Alarua Brazil (Loukotka 1968: 196).

Alon Peru (Loukotka 1968: 178).

Amasifuin Peru (Loukotka 1968: 178).

Amikoana (Amikuân) Brazil, listed by *Ethnologue* as an unclassified language with "a few speakers".

Amoeca Brazil (Loukotka 1968: 196).

Amuimo Brazil (Loukotka 1968: 228).

Anetine Bolivia (Loukotka 1968: 165).

Angara Peru (Loukotka 1968: 272).

Anicun Brazil (Loukotka 1968: 93).

Anserma (including Caramanta, Cartama) Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data".

Aparea Argentina (Loukotka 1968: 63).

Apitupá Brazil (Loukotka 1968: 93).

Apiyipán Bolivia (Loukotka 1968: 165).

Aracadaini Brazil (Loukotka 1968: 196).

Arae Brazil (Loukotka 1968: 86).
Aramayu Brazil (Loukotka 1968: 228).
Aramurú Brazil (Loukotka 1968: 93).
Arapoá Brazil (Loukotka 1968: 93).
Arara do Beiradão (Arara do Rio Branco, Arara do Aripuanã) "Unclassified" Brazil (*Ethnologue*).
Ararau Brazil (Loukotka 1968: 228).
Arda Peru (Loukotka 1968: 196; Mason 1950: 234–235); see also below for mistaken identities involving this name.
Arma-Pozo Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data".
Aroásene Brazil (Loukotka 1968: 228).
Artane Bolivia (Loukotka 1968: 165).
Atavila Peru (Loukotka 1968: 272).
Aticum (Araticum) Brazil (Loukotka 1968: 93).
Atunceta Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data".
Aueiko Brazil (Loukotka 1968: 165).
Avis Brazil (Loukotka 1968: 93).
Axata Darpa Paraguay (Loukotka 1968: 63).
Ayacore Peru (Loukotka 1968: 178).
Bagua Peru. Only three words are known of Bagua; "the evidence is not sufficient to allow any reliable classification" (Adelaar and Muysken 2004: 405). Loukotka (1968: 221) equates Bagua and Patagón (Patagón de Bagua), placing this in the Patagón Group of his Karaib Stock, noting "only five words" were known. Torero (2002: 278–280) notes differences in the two and maintains them as separate entities, saying that Bagua remains unclassifiable because of insufficient data.
Baixóta Brazil (Loukotka 1968: 93).
Bakurönchichi Brazil (Loukotka 1968: 166).
Bauá Brazil (Loukotka 1968: 196).
Bikutiakap Brazil (Loukotka 1968: 166).
Bixarenren Brazil (Loukotka 1968: 166).
Boimé (Poyme) Brazil (Loukotka 1968: 93).
Bolona Ecuador. "The affiliations of the Bolona language cannot be known for lack of data" (Adelaar and Muysken 2004: 397), though it has been put with Jivaroan by Loukotka (1968) and with Cañar by Torero (1993).
Bracamoro (Papamuru) Peru (Loukotka 1968: 178).
Buritiguara Brazil (Loukotka 1968: 86).
Caapina Brazil (Loukotka 1968: 228).
Cachipuna Peru (Loukotka 1968: 272).
Cafuana Brazil (Loukotka 1968: 196).

Cagua *Ethnologue*: unclassified extinct language, Colombia.
Caguan (Kaguan) Argentina (Loukotka 1968: 63).
Cahan Brazil (Loukotka 1968: 86).
Cajamarca Peru (Loukotka 1968: 272).
Cajatambo Peru (Loukotka 1968: 272).
Camana (Maje) Peru (Loukotka 1968: 272).
Camaraxo Brazil (Loukotka 1968: 93).
Camaré Brazil (Loukotka 1968: 228).
Campaces, Ecuador. Barbacoan connections have been suggested, with Tsafiki, but unconfirmed (Adelaar and Muysken 2004: 392).
Canelo, Ecuador. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data" (cf. Mason 1950: 251–252).
Cañacure Bolivia (Loukotka 1968: 166).
Capueni Brazil (Loukotka 1968: 196).
Capua Brazil (Loukotka 1968: 166).
Cara (Scyri, Caranqui, Otavalo) Ecuador. Often classified as Barbacoan (cf. Loukotka 968: 249), but the evidence is not conclusive due to its poor documentation. Caranqui was replaced by Quechua, perhaps surviving as late as the 18th century. Mason (1950: 184) says "its affiliation will probably never be certainly known". (See Barbacoan above).
Carabayo (Yuri, "Amazonas Macusa") Colombia. *Ethnologue*: unclassified extinct language. Fabre (1998: 359): classification unknown due to lack of data.
Caraguata Brazil (Loukotka 1968: 196).
Carapacho Peru (Mason 1950: 272).
Carára Brazil (Loukotka 1968: 228).
Carari Brazil (Loukotka 1968: 196).
Carará (Cajurú) Brazil (Loukotka 1968: 93).
Caripó (Curupehe) Brazil (Loukotka 1968: 93).
Cascoasoa Peru (Mason 1950: 272; cf. Loukotka 1968: 154).
Casigara Brazil (Loukotka 1968: 196).
Casota Argentina (Loukotka 1968: 63).
Cauacaua (Kawakawa) Brazil (Loukotka 1968: 196).
Cauauri Brazil (Loukotka 1968: 228).
Caucahue (Caucabue, Caucau, Coucou, Gaviota). Caucahue, for which there is no attestation, is sometimes listed as an unclassified language of the south of Chile; some have classified it with Chonan or with Qawasqaran, and some identify it with the Chonos. *Ethnologue* gives it as Kakauhua (Kaukaue, Cacahue), classifying it as Alacalufan [Qawasqaran]. Since there are no materials at all on this alleged language, it cannot be identified or classified. Viegas Barros (2005: 81) suggests that a prudent posture might be to consider that the Caucahues were probably actually Chonos, since they were reported to occupy the same territory and to have the same cultural traits as Chonos.

Cauni Brazil (Loukotka 1968: 196).
Caupuna Brazil (Loukotka 1968: 196).
Cavana (Maje) Peru (Loukotka 1968: 272).
Caxago Brazil (Loukotka 1968: 93).
Cayú Brazil (Loukotka 1968: 166).
Ceococe Brazil (Loukotka 1968: 93).
Chachapoya (Chacha). The language of the Chachapoya (Chacha) in northern Peru is extinct and extremely poorly known. Possible connections have been suggested with Hibito-Cholón, Copallén, and even the postulated *-cat(e)* languages (Adelaar and Muysken 2004: 407; Torero (1989: 236–237). (Loukotka 1968: 272.)
Chancay Peru (Loukotka 1968: 272).
Chechehet ("Pampa") is an undocumented language of Argentina (Adelaar and Muysken 2004: 32; Loukotka 1968: 48).[75]
Chedua Peru (Loukotka 1968: 179; Mason 1950: 272).
Chicha Bolivia (Loukotka 1968: 272).
Chincha Peru (Loukotka 1968: 272).
Chinchipe Peru (Loukotka 1968: 179).
Chipiajes *Ethnologue*: unclassified extinct language, Colombia. *Ethnologue* mentions that Chipiajes is a Sáliba surname and that many "Guahibo have that last name".
Chitarero, Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data".
Cholto Peru (Mason 1950: 272).
Chongo Peru (Loukotka 1968: 272).
Chono Ecuador. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". (Not to be confused with the Chono of Chile, about which there has been considerable confusion; see above.)
Chumbivilca Peru: probably a variety of Puquina (Willem Adelaar, personal communication); Loukotka (1968: 269) considered this a member of his Aymara stock.
Chunanawa Peru (Mason 1950: 272).
Churima Bolivia (Loukotka 1968: 166).
Chusco Peru (Mason 1950: 272).
Ciaman, Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data."
Cognomona Peru (Loukotka 1968: 179, Masosn 1950: 272).
Colima, Ecuador. A Cariban affiliation is sometimes assumed for Colima (Adelaar and Muysken 2004: 114), but it "cannot be classified for absence of data" (Adelaar and Muysken 2004: 623).
Comanahua Peru (Loukotka 1968: 179).
Comaní Brazil (Loukotka 1968: 228).

Comechingón. The language of the Comechingones, once spoken near Córdova, Argentina, "is virtually undocumented" and cannot be classified. Tovar (1961: 29) says "this language has not left remains that could give hope of a solution to the problem of classifying it".[76] Notwithstanding, Loukotka (1968: 278) put Comechingón (with its presumed dialects Henia and Camiare) in his Huarpean family (Adelaar and Muysken 2004: 502). Adelaar and Muysken (2004: 615) give Comechingón as possibly a cluster of languages, with Camiare and Henia subgroups, mentioning suggested affiliation with Huarpean.

Copallén (Copallín) Peru. Of the language of Copallén only four words were recorded; "nothing can be said about the genetic affinities of this language" (Adelaar and Muysken 2004: 406; see also Torero 2002: 287–289). Loukotka (1968: 261) listed it as an isolated language.

Coritanahó Brazil (Loukotka 1968: 228).

Coxima (Koxima) *Ethnologue*: unclassified extinct language, Colombia.

Culaycha Argentina (Loukotka 1968: 63).

Cumayari Brazil (Loukotka 1968: 196).

Cumbazá (Belsano) Peru (Loukotka 1968: 179).

Curanave Brazil (Loukotka 1968: 228).

Curi Brazil (Loukotka 1968: 196).

Curiane. "Language of a tribe the location of which is not known exactly" in northeastern SA (Loukotka 1968: 228).

Curierano Brazil (Loukotka 1968: 228).

Curizeta Peru (Loukotka 1968: 179).

Curubianan Brazil (Loukotka 1968: 228).

Curumiá Brazil (Loukotka 1968: 86).

Curumro (Kurumro) Paraguay (Loukotka 1968: 63).

Curuzirari Brazil (Loukotka 1968: 196).

Cutaguá Brazil (Loukotka 1968: 86).

Cutría Brazil (Loukotka 1968: 166).

Cuximiraíba Brazil (Loukotka 1968: 166).

Cuxiuára Brazil (Loukotka 1968: 196).

Damanivá Brazil (Loukotka 1968: 229).

Dawainomol Paraguay (Loukotka 1968: 63).

Demacuri Brazil (Loukotka 1968: 229).

Divihet Argentina (Loukotka 1968: 63).

Dokoro Brazil (Loukotka 1968: 166).

Duri Brazil (Loukotka 1968: 166).

Egualo Argentina (Loukotka 1968: 63).

Eimi Peru (Loukotka 1968: 179).

Emischata Argentina (Loukotka 1968: 63).

Envuelto Colombia (Loukotka 1968: 196).

Erema Brazil (Loukotka 1968: 166).

Ewarhuyana Brazil. Ewarhuyana is an unclassified language, possibly extinct, though some recent sources list 12 speakers, in Pará state.
Foklása Brazil (Loukotka 1968: 93).
Gadio Brazil (Loukotka 1968: 86).
Galache Brazil (Loukotka 1968: 93).
Gambéla Brazil (Loukotka 1968: 93).
Gorgotoqui Bolivia. Loukotka (1968: 61) lists Gorgotoqui as an "isolated language". Kaufman (1990) suggested that perhaps it should not be listed, since it is perhaps completely undocumented, and indeed, it is absent from Kaufman (1994).
Goyana Brazil (Loukotka 1968: 229).
Guaca (and **Nori**) Colombia. Adelaar and Muysken (2004: 623) list these two together as languages which "cannot be classified for absence of data".
Guacará Argentina (Mason 1950: 208).
Guadaxo Brazil (Loukotka 1968: 86).
Guaimute Brazil (Loukotka 1968: 86).
Guajarapo (Guasaroca) Bolivia (Loukotka 1968: 166).
Guanaca Colombia. Guanaca has sometimes been suggested to be a relative of Guambiano (Barbacoan) (Adelaar and Muysken 2004: 142). Adelaar and Muysken (2004: 623) list it as a language which "cannot be classified for absence of data".
Guane Colombia. Constenla, this volume, says ita has "been considered Chibchan, but no linguistic evidence has been offered in support of these proposals".
Guanarú Brazil (Loukotka 1968: 196).
Guanavena Brazil (Loukotka 1968: 229).
Guarino Brazil (Loukotka 1968: 93).
Guenta Colombia (Loukotka 968: 259).
Guyarabe Brazil (Loukotka 1968: 196).
Hacaritama, Colombia. Adelaar and Muysken (2004: 116) explain that a wordlist once thought to be of this language was from three Guajiro workers traveling through the area: "The real affiliation of the Hacaritama language, if it ever existed, remains undetermined."
Harritiahan Brazil (Loukotka 1968: 229).
Hiauahim (Javaim) Brazil (Loukotka 1968: 166).
Himarimã *Ethnologue*: unclassified, nearly extinct, Brazil. An uncontacted group.
Huacavilca: unclassified extinct language, Ecuador.
Huamachi Peru (Loukotka 1968: 272).
Huambuco Peru (Loukotka 1968: 272). A misspelling for Huánuco? Perhaps this should be eliminated, just a place name (see below).
Huayana Peru (Mason 1950: 272).
Huayla Peru (Loukotka 1968: 272).
Iapama *Ethnologue* gives Iapama as unclassified, population unknown, Brazil.

Ibabi Aniji Peru (Loukotka 1968: 179).
Idabaez, Colombia. "The only thing known of this language, if it existed as a separate language, is one word, *tubete* 'medicine-man', and a chief's name (*Hijuoba*)" (Adelaar and Muysken 2004: 56). Loukotka (1968: 259) considered it an isolated language.
Imaré Brazil (Loukotka 1968: 86).
Ina Brazil (Loukotka 1968: 86).
Iñajurupé Brazil (Loukotka 1968: 87).
Irra Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 257) listed "Irrá" with his Chocó Stock, but indicated nothing was known of the language.
Iruri Brazil (Loukotka 1968: 166).
Isolados do Massaco (?) Brazil (Crevels, this volume)
Isolado do Tanarú (?) Brazil (Crevels, this volume)
Itipuna Brazil (Loukotka 1968: 197).
Itucá (Cuacá) Brazil (Loukotka 1968: 93).
Jacariá Brazil (Loukotka 1968: 197).
Jaguanai Brazil (Loukotka 1968: 197).
Jaguanan Brazil (Loukotka 1968: 63).
Jamundi Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 259) had grouped this with his Yurimangui Stock, but indicated that nothing was recorded of it.
Jeticó (Jiripancó) Brazil (Loukotka 1968: 93).
Jitirijiti Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 257) listed "Jiritigiti" with his Chocó Stock, but indicated nothing was known of the language.
Jurema Brazil (Loukotka 1968: 87).
Juruena Brazil (Loukotka 1968: 166).
Jururu Brazil (Loukotka 1968: 93).
Kaimbé (Caimbé, Caimbe) Brazil. *Ethnologue*: unclassified extinct language; Loukotka (1968: 93).
Kamba (Camba) *Ethnologue:* unclassified extinct language, possibly Tupían, Brazil
Kambiwá (Cambiuá, Cambioá) Brazil. *Ethnologue:* unclassified extinct language, (see Loukotka 1968: 93).
Kantaruré Brazil (Crevels, this volume).
Kapinawá *Ethnologue:* unclassified extinct language, Brazil
Karahawyana *Ethnologue* lists this as unclassified, though probably Cariban, in Brazil.
Katembri (Kariri de Mirandela) Brazil (Loukotka 1968: 87–88)
Kiapüre (Quiapyre) Brazil (Loukotka 1968: 166).
Kohoroxitari *Ethnologue*: unclassified, "possibly Tucanoan; may be the same as Baniwa."

Kokakôre Brazil (Loukotka 1968: 87).
Komokare Brazil (Loukotka 1968: 87).
Korubo (Caceteiros) *Ethnologue*: possibly Panoan [Pano-Takanan]. May be the same as Marúbo, or related to Yanomámi [Yanomaman]. "Unclassified."
Koshurái Brazil (Loukotka 1968: 166).
Kururu Brazil (Loukotka 1968: 87).
Lache, Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 241) listed Lache with the Chibcha Group of his Chibcha Stock, but with the indication that nothing was known of the language. Constenla, this volume, also says they "have been considered Chibchan, but no linguistic evidence has been offered in support of these proposals".
Lambi Brazil (Loukotka 1968: 166).
Lili, Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 259) grouped Lili with his Yurimangui Stock, but with the indication that nothing was known of the language.
Llamish Peru (Loukotka 1968: 273).
Macamasu Brazil (Loukotka 1968: 93).
Macarú Brazil (Loukotka 1968: 94).
Macuani Brazil (Loukotka 1968: 229).
Macuaré Brazil (Loukotka 1968: 166).
Macuja Brazil (Loukotka 1968: 197).
Macuruné Brazil (Loukotka 1968: 87).
Mairajiqui Brazil (Loukotka 1968: 94).
Malaba, Ecuador. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 248) placed this language with the Barbácoa Group of his Chibcha Stock, but noted nothing was known of it.
Malibú, Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 244) thought it went with a "Malibú Group" of his Chibcha Stock.
Malquesi Paraguay (Loukotka 1968: 63).
Manesono (Mopeseano) Bolivia (Loukotka 1968: 166).
Manta, Ecuador. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 262) put Manta or Manabi in his Chimú Stock, but indicated that it was unknown except for a few patronyms.
Maracano Brazil (Loukotka 1968: 229).
Marapanã Brazil (Loukotka 1968: 166).
Maricoxi Brazil (Loukotka 1968: 166).
Maricupi Brazil (Loukotka 1968: 229).
Maripá Brazil (Loukotka 1968: 197).
Maruquevene Brazil (Loukotka 1968: 197).
Masa Argentina (Loukotka 1968: 63).
Masarari Brazil (Loukotka 1968: 197).

Masaya Colombia (Loukotka 968: 259).

Mashco Peru. Crevels (this volume) lists Mashco as an unclassified language spoken by an uncontacted group who reportedly speak a language related to Piro (Arawakan). Loukotka (1968: 139, 141) listed Mashco (Sirineiri, Moeno) in the "Preandine Group" of his "Arawak stock" (distinct from Mashco Piro or Inapari of the same group [Loukotka 1968: 140]).

Matará Argentina (Mason 1950: 268). Loukotka (1968: 277) placed this in his Lule stock, but without evidence. Its identification is very uncertain; some assume it was Wichí or another Matacoan language.

Maynas (Mayna, Maina, Rimachu) Peru. Hammarström (2011) has shown that "Maynas" is a separate language. It is often mistakenly listed with Omurano, due to overlapping names, for example Hervás y Panduro's "Humurano" as a dialect of "Maynas." Proposals have tried to link the language with Jivaroan, Cahuapanan, Zaparoan, and Candoshi, but for now it is best to consider it unclassified.

Maxiena (Ticomeri) Boliva (Loukotka 1968: 166).

Mayu Brazil (Loukotka 1968: 197). Perhaps the same as Mayo (Panoan [Pano-Takanan])? Perhaps a mistaken identity for some other linguistic or geographical entity, since *mayu* is the Quechua word for 'river, water'.

Menejou Brazil (Loukotka 1968: 229).

Minhahá Brazil (Loukotka 1968: 166).

Miarrã *Ethnologue*: unclassified. Brazil.

Mocana Colombia. Adelaar and Muysken (2004: 624): "cannot be classified for absence of data." Loukotka (1968: 244) classified "Mocana" in the Malibú Group of his Chibcha Stock, but mentioning that only two words of the language were known.

Moheyana Brazil (Loukotka 1968: 229).

Morcote, Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 240) had Morcote as a member of the Chibcha Group of his Chibcha Stock, but notes that nothing is known of the language. Constenla, this volume, also says the language has "been considered Chibchan, but no linguistic evidence has been offered in support of these proposals".

Moriquito Brazil (Loukotka 1968: 94).

Morua Brazil (Loukotka 1968: 197).

Moyobamba (Moyo-Pampa) Peru (Loukotka 1968: 273; Mason 1950: 272).

Muriva Brazil (Loukotka 1968: 167).

Muzapa Peru (Loukotka 1968: 179).

Muzo, Colombia. (cf. Migliazza and Campbell 1988: 311–316.) Loukotka (1968: 219) grouped Muzo in his Karaib [Cariban] Stock, in the Pijao Group, indicating "only three words" were known of it. Adelaar and Muysken (2004: 114) note that a few items of vocabulary "point to a Cariban connection."

Natagaimas *Ethnologue*: extinct, unclassified, Colombia.
Nacai Brazil (Loukotka 1968: 94).
Nambu Bolivia (Loukotka 1968: 167).
Nauna Brazil (Loukotka 1968: 197).
Nindaso Peru (Mason 1950: 272; cf. Loukotka 1968: 154).
Nocadeth Brazil (Loukotka 1968: 167).
Nomona Peru (Mason 1950: 272; cf. Loukotka 1968: 154).
Ñumasiara Brazil (Loukotka 1968: 197).
Ocra Peru (Loukotka 1968: 273).
Ocren Brazil (Loukotka 1968: 94).
Ohoma Argentina. (Loukotka 1968: 63). Is is probably the same as the Hohoma or Mahoma, which Métraux (1946: 225) thought was possibly related to Guaicuruan (see also Mason 1950: 205).
Oivaneca Brazil (Loukotka 1968: 229).
Olmos (language of the Olmos oasis) Peru (Adelaar and Muysken 2004: 320, 400): possibly connected with Sechura.
Onicoré Brazil (Loukotka 1968: 167).
Onoyóro Brazil (Loukotka 1968: 167).
Orí Brazil (Loukotka 1968: 94).
Ortue Bolivia (Loukotka 1968: 167).
Otecua Peru (Loukotka 1968: 179).
Otegua Colombia (Loukotka 968: 259).
Otí* (Eochavante, Chavante) Brazil. Otí is often listed as an isolate, though so little is known that it should be considered unclassified. Kaufman (1994: 70) says of Otí that of the large-scale classifiers "only Greenberg dares to link this language to anything else" – Greenberg placed in in his Macro-Ge phylum. *Ethnologue* also classifies its Oti as belonging to "Macro-Gé," though Ribeiro (2006: 422) says "the meager available data do not support its [Otí's] inclusion into the Macro-Jê stock". (Not to be confused with Jotí [Joti, Jodi, Hotí, Hodï] of Venezuela.)
Pacabuey, Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 240) listed this language with the Malibú Group of his Chibcha Stock, with the note that nothing is known of the language.
Pacarará (Pakarara), Brazil (cf. Loukotka 1968: 94).
Pacimonari Venezuela (Loukotka 1968: 229).
Paguara Brazil (Loukotka 1968: 197).
Panatagua (Pantahua), extinct language of Peru, sometimes placed with Arawakan, "however, the linguistic affinity of Panatagua has never been established with certainty" (Adelaar and Muysken 2004: 422; Mason 1950: 272).
Panche, Colombia. A Cariban affiliation is often suspected for Panche (Adelaar and Muysken 2004: 114; Loukotka 1968: 219).

Pankararé (Pankaré) *Ethnologue*: extinct unclassified language of Brazil (of Bahía, not to be confused with the isolate Pankararú of Pernambuco).
Pantágora (Palenque) Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data". Loukotka (1968: 219) listed it as Cariban (his Karaib Stock), indicating "nothing" was known of it.
Pao Venezuela (Loukotka 1968: 229).
Papamiän Brazil (Loukotka 1968: 167).
Papana Brazil (Loukotka 1968: 87).
Papavô *Ethnologue*: unclassified, Brazil. Uncontacted, may be Arawakan or Panoan (?). (Morunahua may be related to Papavô.)
Paragoaru Brazil? (Loukotka 1968: 229).
Paraparixana Brazil (Loukotka 1968: 167).
Parapicó Brazil (Loukotka 1968: 94).
Patagón, Peru (Patagón de Bagua; not to be confused with the Patagón synonym for Chon). Torero (2002: 276–278) follows Rivet (1934: 246) in seeing a Cariban connection for this Patagón, as does Adelaar, Middle Andes, this volume. Loukotka (1968: 221) had equated Bagua and Patagón, but Torero (2002: 278–280) notes differences in the two and maintains them as separate entities. (Cf. Bagua.)
Patiti Brazil (Loukotka 1968: 167).
Payacú Brazil (Mason 1950: 302; cf. Loukotka 1968: 91).
Payanso Peru (Loukotka 1968: 179; Mason 1950: 272).
Pehuenche (Peguenche) Argentina (distinct from the Pehuenche dialect of Mapudungun) (Loukotka 1968: 63). Adelaar and Muysken (2004: 624): "cannot be classified for absence of data."
Peria (Poria) Brazil (Loukotka 1968: 94).
Perovosan Bolivia (Loukotka 1968: 167).
Piapia Brazil (Loukotka 1968: 167).
Pijao (Piajao, Pixao, Pinao), Colombia. *Ethnologue*: extinct unclassified. A Cariban connection is often assumed for Pijao (cf. Adelaar and Muysken 2004: 114).
Pipipan Brazil (Loukotka 1968: 94).
Pocoana Brazil (Loukotka 1968: 197).
Porcá Brazil (Loukotka 1968: 94).
Porú (Procáze) Brazil (Loukotka 1968: 94).
Pubenza, Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data."
Puná (Puná Island) Ecuador (Adelaar, Middle Andes, this volume).
Quelosi Argentina (Loukotka 1968: 63).
Querandí (Carendie), Argentina (near Buenos Aires). Viegos Barros (2005: 70–71) argues Querandí may be related to Gününa Küne (see also Adelaar and Muysken 2004: 505).

Quiquidcana (Quidquidcana, Kikidkana) Peru (Loukotka 1968: 179; Mason 1950: 272).

Quijo (Kijo), Ecuador (sometimes associated with Panzaleo) (Adelaar and Muysken 2004: 394). Adelaar and Muysken (2004: 623): "cannot be classified for absence of data." Loukotka (1968: 249) had placed this in the Barbácoa Group of his Chibcha Stock, though only three words of the language are known.

Quillacinga (Quillasinga), Ecuador (reported in 1593; Adelaar and Muysken 2004: 392). Loukotka (1968: 350) placed it with his Sebondoy group of his Chibchan Stock, though without proper evidence. Fabre (1998: 676) reports that the Kamsa (who speak a language isolate) are descendants, at least in part, of the Quillasinga.

Quimbaya Colombia (Quimbaya-Carrapa-Picara-Paucura) (Adelaar and Muysken 2004: 49). Adelaar and Muysken (2004: 623): "cannot be classified for absence of data." Loukotka (1968: 257) placed Quimbaya with his Chocó Stock, though "only one single word" is known.

Quimbioá Brazil (Loukotka 1968: 94).

Quindío (Quindio), Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data."

Quingnam An extinct and unclassified language of Peru, possibly to be equated with the Lengua (Yunga) Pescadora of colonial sources. (Adelaar and Muysken 2004: 620.) A list of numbers was recently found (Quilter et al. 2010).

Qurigmã Brazil (Loukotka 1968: 94) [sic].

Rabona Ecuador. Loukotka (1968: 156) placed Rabona in his Murato Stock (Candoshi), but acknowledged that only a few words are known of it. Adelaar and Muysken (2004: 397) find some items similar to Candoshi; however, it has other similarities with Aguaruna (Jivaroan). They prefer to leave the classification undecided.

Roramí (Oramí) Brazil (Loukotka 1968: 94).

Sácata (Sacata, Zácata; Chillao), Peru. An extinct language for which only three words are known; it has been associated variously with Candoshi (see Loukotka 1968: 156) and Arawakan (see Torero 2002: 292), but "the factual basis is insufficient for either conclusion" (Adelaar and Muysken 2004: 405).

Sacosi Bolivia (Loukotka 1968: 167).

Sacracrinha (Sequaquirihen) Brazil (Loukotka 1968: 94).

Sanavirón Argentina. The language of the Sanavirones, once spoken near Córdova, Argentina, is "virtually undocumented" and cannot be classified. Loukotka (1968: 48) classified Sanavirón as an isolate; there is insufficient evidence on the language to detect any connections, if any ever existed (Adelaar and Muysken 2004: 502, 615).

Sapeiné Peru (Loukotka 1968: 179).

Seden Brazil (Loukotka 1968: 229).

Siberi Bolivia (Loukotka 1968: 167).

Sintó (Assek, Upsuksinta) Paraguay (Loukotka 1968: 63).
Sinú (Zenú) (subgroups Fincenú, Pancenú, Sinufana, Sutagao) Colombia. Adelaar and Muysken (2004: 624): "cannot be classified for absence of data." Loukotka (1968: 257) grouped Zenú (Senú) with the Chocó Stock, though nothing was known of the language.
Sipisipi Peru (Loukotka 1968: 273).
Socorino Bolivia (Loukotka 1968: 167).
Stanatevogyet Paraguay (Loukotka 1968: 63).
Supeselo Argentina (Loukotka 1968: 63).
Surucosi Bolivia (Loukotka 1968: 167).
Suruim Brazil (Loukotka 1968: 167).
Tacunbiacu Bolivia (Loukotka 1968: 167).
Taguaylen Argentina (Loukotka 1968: 63).
Tacarúba (Tacarua) Brazil (Loukotka 1968: 94).
Taluhet Argentina (Loukotka 1968: 63).
Tamacosi Bolivia (Loukotka 1968: 167).
Tamaní Colombia (Loukotka 1968: 197).
Tamaquéu Brazil (Loukotka 1968: 94).
Tamararé Brazil (Loukotka 1968: 167).
Tambaruré Brazil (Loukotka 1968: 167).
Taminani Brazil (Loukotka 1968: 229).
Tanquihua Peru (Loukotka 1968: 273).
Tapacurá Brazil (Loukotka 1968: 167). (Not Chapacuran.)
Tapeba Brazil *Ethnologue* extinct "unclassified".
Tapuisú Brazil (Loukotka 1968: 229).
Tarairiú* (Tarairiu, Ochucuyana) Brazil.
Kaufman (1994:70) reports that "not even Gr[eenberg] dares classify this language". Some associate this language with Macro-Jêan languages (cf. Mason 1950: 302). Loutokta (1968: 90–1) says "the following extinct languages belong to the same stock ["Tarairiú stock"]: Xoró, Janduí, Payacu, Panatí, Miñari, Panahi, Canindé, Genipapo, Camamu, Itañá (Baturité), Candodú, Caratiú, Acriú, Anasé.
Tarimoxi Brazil (Loukotka 1968: 167).
Taripio Brazil, Suriname (Loukotka 1968: 229).
Tavúri Brazil (Loukotka 1968: 167).
Tchagoyána Brazil (Loukotka 1968: 229).
Tchicoyna Brazil (Loukotka 1968: 230).
Tegua, Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data."
Tepqui Peru (Loukotka 1968: 179; Mason 1950: 272).
Tevircacap Brazil (Loukotka 1968: 167).
Tiboi Bolivia (Loukotka 1968: 167).

Timaná Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data." Loukotka (1968: 245) thought Timaná (Timine) belonged to the Andaquí Group of his Chibcha Stock.
Tingán (Tingan) Peru (Loukotka 1968: 179; Mason 1950: 272).
Tingui-Boto (Tingui, Tingui-Botó, Carapató, Karapató) Brazil *Ethnologue*: extinct and "unclassified".
Tobachana Brazil (Loukotka 1968: 197).
Tohazana Venezuela (Loukotka 1968: 230).
Tomata Bolivia (Loukotka 1968: 273).
Tomina Bolivia (Loukotka 1968: 273).
Tonocoté Argentina. Though often identified with Lule, the identification "is especially in dispute", and it has also been assumed to be identified with several other languages of the Chaco region (Mason 1950: 208; cf. Adelaar and Muysken 2004: 385–386; Tovar 1961: 46).
Tororí Brazil (Loukotka 1968: 167).
Truká Brazil *Ethnologue*: extinct "unclassified". Fabre (1998: 1020) lists Truká as a language of unknown affiliation.
Tremembé (Teremembé, Taramembé) Brazil. *Ethnologue:* unclassified. Fabre (1998: 1019) gives Tremembé as a language of unknown affiliation, though definitely not Tupían.) (Loukotka 1968: 94.)
Tubichaminí (Loukotka 1968: 48; Tovar 1961: 26).
Tucumanduba Brazil (Loukotka 1968: 197).
Tulumayo Peru (Loukotka 1968: 179; Mason 1950: 272).
Tupijó Brazil (Loukotka 1968: 94).
Tupiokón Brazil (Loukotka 1968: 167).
Tutura Bolivia (Loukotka 1968: 273).
Uairua Brazil (Loukotka 1968: 197).
Uauarate Brazil (Loukotka 1968: 197).
Uranaju Brazil (Loukotka 1968: 230).
Urucuai Brazil (Loukotka 1968: 167).
Uruma Brazil (Loukotka 1968: 95).
Uru-Pa-In Brazil *Ethnologue:* unclassified.
Urupuca Brazil (Loukotka 1968: 87).
Ururi Brazil. "In the state of Mato Grosso, exact location unknown" (Loukotka 1968: 87).
Vanherei Brazil (Loukotka 1968: 87).
Vouve Brazil (Loukotka 1968: 94).
Waitaká (Guaitacá, Goyatacá, Goytacaz) Brazil (Mason 1950: 300; cf. Loukotka 1968: 67–68). Mason (1950: 301) mentions four subdivisions: Mopi, Yacorito, Wasu, and Miri.
Wakoná (Wacona, Acona) *Ethnologue:* unclassified Brazil. Loukotka's (1968: 92) Aconan [Wakona].

Walêcoxô Brazil (Loukotka 1968: 94).
Wasu (Waçu, Wassu) Brazil *Ethnologue:* unclassified. Fabre (1998: 1203): unknown linguistic affiliation for lack of data.
Wau Peru (Loukotka 1968: 179).
Xaquese Bolivia (Loukotka 1968: 167).
Xaray Boliva (Loukotka 1968: 167).
Xibata Brazil (Loukotka 1968: 94).
Xipará Brazil (Loukotka 1968: 230).
Xiroa Eccuador. Language mentioned in early sources, but this may just be a variant spelling of Jívaro (Adelaar and Muysken 2004: 393, 397).
Xokó* (Chocó, Shoco, Shokó, Chocaz) Brazil
Only four words are known (Loukotka 1968: 88). The convention in classifications of Sourth American languages is usually to list this among the independent families and isolates; however, it properly belongs here among languages too poorly known to be classified.
Yalcón Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data." Though for Yalcón (Cambi) nothing was known, Loukotka (1968: 245) placed it with the Andaquí Group of his Chibcha Stock.
Yamesí Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data." With "only a single word" known, Loukotka (1968: 239) included "Yamesi" in the Antioquia Group of his Chibcha Stock.
Yampará Bolivia (Loukotka 1968: 273).
Yaperú (Naperú, Apirú) Paraguay (Loukotka 1968: 87).
Yarí Colombia. *Ethnologue* says it is "possibly a dialect of Carijona (Carib[an]), a Western Tucanoan language, or Huitoto[an]." Adelaar and Muysken (2004: 623): "cannot be classified for absence of data." For Fabre (1998: 1242) it is also a language without classification for lack of data.
Yariguí (Yarigüí), Colombia. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data." In Loukotka's (1968: 220) classification, this was placed in the Opone Group of his "Karaib Stock", though nothing was known of the language.
Yauei Brazil (Loukotka 1968: 167).
Yenmu Colombia (Loukotka 1968: 197).
Yoemanai Brazil (Loukotka 1968: 198).
Yufiua Brazil (Loukotka 1968: 197).
Yumbo Ecuador. Adelaar and Muysken (2004: 623): "cannot be classified for absence of data." Loukotka (1968: 248) had Yumbo in the Barbácoa Group of his Chibcha Stock; nothing was known of the language.
Zapazo Peru (Mason 1950: 272).
Zuana Brazil (Loukotka 1968: 197).
Yurimagua (Zurimagua, Jurimagua) Peru (Mason 1950: 240).
Zurina Brazil (Loukotka 1968: 167).

As mentioned, the list could be both expanded and reduced, based on what perspective one takes. As Willem Adelaar points out (personal communication), many of the "langauge" names listed by Loukotka (1968) and some others were originally included in classifications based on the once wide-pread but mistaken view that Quechua was originally only spoken in the Cuzco area and so every other area must have had its own language. Thus I have not included the following in this list from among those listed as languages by Loukotka but seen by Adelaar as other sorts of names, not language names:

> Arequipa Peru (Loukotka 1968: 272); Cajatambo Peru (Loukotka 1968: 272); Camana (Maje) Peru (Loukotka 1968: 272); Chancay Peru (Loukotka 1968: 272); Chincha Peru (Loukotka 1968: 272); Chucurpu (Chocorvo) Peru (Loukotka 1968: 272); Chupacho Peru (Loukotka 1968: 179); Conchuco Peru (Loukotka 1968: 272); Cutervo (Huambo) Peru (Loukotka 1968: 272); Huacho Peru (Loukotka 1968: 272); Huamachuco Peru (Loukotka 1968: 272); Huamalí Peru (Loukotka 1968: 272); Huamanga. "Exinct language of Peru" (Loukotka 1968: 272); Huanca (Wanka) Peru (Loukotka 1968: 272); Hunacabamba (sic, for Huancabamba) Peru (Loukotka1968: 272); Ica Peru (Loukotka 1968: 273) (not to be confused with Chibchan Ica [Ika]); Lampa Peru (Loukotka 1968: 273); Mizque Bolivia (Loukotka 1968: 273); Nazca Peru (Loukotka 1968: 273); Pocra. "Extinct languages from Peru" (Loukotka 1968: 273); Rimac Peru (Loukotka 1968: 273); Rucana Peru (Loukotka 1968: 273); Sora Peru (Loukotka 1968: 273); Supe Peru (Loukotka 1968: 273); Tarapaca Chile (Loukotka 1968: 273); and Yauyo Peru (Loukotka 1968: 273).

If these were included in the list of possibly extinct and little known languages, the list would expand considerably, but it is more likely that others similar to these should be removed from the list, diminishing the number of "phantom" languages (see below). It is, on the other hand, highly likely that numerous languages have indeed disappeared given the vicissitudes of Andean history, but it is not possible to recover any of them just by assuming they must have existed in particular locations (Willem Adelaar; personal communication).

On the other hand, a good number of other names, mentioned in connection with the classification presented above, could be included in this list, for example, Cañar, Puruhá, Panzaleo, Pasto, Palta, Malacato, etc.

6. "Phantom" languages

For completeness' sake, the fake or phantom languages and false identifications which have figured in some classifications of SA languages should be mentioned, and discarded. These involve misinterpretations of non-existent or non-SA languages.

Aksanás

Loukotka (1968: 44) had an Aksanás stock with two languages, Chono (Caucau) and Kaueskar (Aksanás), not connected with his Alacaluf "isolated language" (Loukotka 1968: 43). Aksaná(s) is abandoned here, following Clairis

(1978: 32, 1985: 756) who argued that the Aksaná(s) language (not Qawasqar) does not exist, but rather is owed to Hammerly Dupuy's misidentification of a variety of Qawasqar as distinct based on his poor comparison of material recorded from 1698. Hammerly Dupuy (1952, cf. 1947a, 1947b) thought he had discovered a group of "Kaueskar" who spoke "Aksanas", different from Alakaluf (Qawasqar). Dupuy compared 50 words from a 1698 vocabulary by the French pirate Jean de la Guilbaudière with one Dupuy himself had taken down – he judged the two vocabularies to be different. Clairis (1985) explained the nature of the mistaken identity:

> It is sufficient to examine just the first word of this comparative list in order to get an idea of the inevitable errors of this type of "method." Taking the word "water" for which la Guilbaudière noted *arret* [sic], Hammerly listed *čafalai*. Here one is dealing with an error made by la Guilbaudière. He showed the Qawasqar a bucket of water so as to obtain the equivalent in their language and did not notice that their response was to the receptacle and not to the contents. Thus, *aret* means "container of liquid."
> (Clairis 1985: 756)

Loukotka unfortunately accepted Hammerly Dupuy's judgement and listed Aksanas as a language isolate distinct from Alakaluf (Qawasqar) in his classification of SA languages. The name Aksanás is also one name for Northern Qawasqar; this should not be confused with the erroneously claimed independent "Aksanás".

Arda

A Gbe language of African came to be mistakenly identified with the Arda tribe of Colombia. As Mason (1950) explains:

> *Arda* was accepted as an independent [South American] linguistic family by all authorities from 1858 to 1924, including Rivet (1924) and Schmidt (1926). This opinion was based on a Doctrina in a language of this name, the Lord's Prayer from which was published by Ludewig 1858. This obviously bore no relationship whatsoever to any adjacent language. Paul Rivet (1925b) examined the original manuscript in Madrid and found that it made no reference to a country in which *Arda* was spoken. Following some suspicions, he compared the words with modern *Dahomean* in Africa and determined their close relationship, especially to the *Popo* dialect. The text was evidently taken in the Slave Coast Kingdom of Arda, and the language has therefore no relation to that of the *Arda* tribe of southeastern Colombia, an extinct group probably related to the *Peba, Yagua,* and *Yameo*.
> (Mason 1950: 234–235)

(Also not to be confused with J.R.R. Tolkien's the Tongues of Arda [Middle Earth].)

Hongote

Hongote continues to be associated with Chonan languages (cf. Adelaar and Muysken 2004: 615; Fabre 1998: 529), though the mistake was corrected long

ago. Swadesh (1959, 1962) grouped Hongote with Mosetén and Chon in his "Sonchon" grouping. Greenberg (1987: 383) listed Hongote as a member of his Patagonian languages (Chonan); he presented one supposed Hongote word in his attempt to give evidence for his grouping of these languages in his "Andean" hypothesis, part of his Amerind proposal. However, the name Hongote is due to Brinton's (1892a) reference to two colonial vocabularies with this name, which he included among dialects of Patagonian, but one of the vocabularies turned out to be from a Salishan language (Songish?), the other from Tlingit, both of the northwest coast of North America. The error was corrected at least three times in the same year it was made, by Brinton (1892b), (1892c), and Mason (1892: 283). (Cf. Viegas Barros 2005: 80–81.)

Kukurá (Cucurá, Kokura, Kukura)

Kukurá typically continues to be listed as a language isolate in classifications of SA languages, but it is another "phantom" language, the result of confusion between A. von Frič and his interpreter, "un Indien de tribu Kainguá, nommé Guzmán, que parlait le langage de ces Chavantes" [an Indian of the Kainguá tribe, named Guzmán, who speaks the language of these Chavantes] (Loukotka 1931: 121). Nimuendajú (1932) exposed the misidentification of "Kukurá" right after Loukotka (1931) presented it as a new and isolated language, based on the putative 1901 wordlist of Kukurá from Rio Verde. Based on his visits in 1909 and 1913, Nimuendajú showed the language of the region could only be Opayé. Von Frič's interpreter had fabricated the wordlist given as Kukurá, about half in badly pronounced Guaraní and the other half faked, certainly not in Opayé; either he had bragged about knowing the language of the "Chavante" and did not or the Opayé of the Rio Verde knew Paraguayan Guaraní. Loukotka (1931: 123) recognized that the wordlist had some words of Tupí-Guaraní origin, but thought it probable that these could be translation errors or perhaps loans. As Nimuendajú revealed, Guzmán had also falsified wordlists from some other languages where he had been the interpreter. (Cf. Mason 1950: 300.)[77]

Eduardo Ribeiro (personal communication) notes that, interestingly, Greenberg (1987: 385) was able to classify Kukurá in his "Ge-Pano-Carib" as a member of "Macro-Carib" even though it is a made-up language.

Wayteka (Chono, Wurk-wur-we)

Another non-existent language is due to Llaras Samitier (1967), who believed that a language called "Chono" or Wayteka or Wurk-wur-we was spoken in the north of the Qawasqar area, not related to "Alakaluf" (Qawasqar). The only "evidence" was a "Wayteka" vocabulary of 97 items. This vocabulary, however, turned out to be a mixture of words taken from different sources and some material by Llaras Samitier, from Mapudungu, Gününa Küne, Qawasqar, Tehuelche, and some that appear to be invented. Thus, "Wayteka" never existed as an independent language (Viegas Barros 1990: 48, 2005: 46). The language

of the group traditionally called Chono is very poorly attested, and there has been confusion about its classification (see above), but this is not the same as Llaras Samitier's (1967) "Chono" or Wayteka.

7. Proposals of distant genetic relationship

7.1. Possible remote relationships

In addition to the generally accepted families in the classification of SA Indian languages (listed above), numerous more remote possible larger-scale genetic groupings have been postulated. The most promising proposals of distant genetic relationship involving SA languages are the following. They are of different quality; all deserve further investigation, but none should be embraced unless more compelling evidence of genetic relationship is found:

Alacalufan-Yagan (Viegas Barros 2005: 99–107)
Arawakan and Cariban (Mason 1950: 209; David Payne 1990: 83).
Arutina-Sape (Awaké-Kaliana) (*Ethnologue*, http://www.ethnologue.com/show_lang_family.asp?code=atx) (See proposed Kulianan stock, below.)
Bora-Witotoan (Aschmann 1993)
Bora-Witotoan and Andoque (Kaufman 1994: 64).
Candoshi-Arawan-Arawakan-Cariban (plus also possibly Jivaroan) (David Payne 1990: 83–85).
Chiquitano-Bororoan (Kaufman 1994). Kaufman (1994) groups this also with his "Macro-Je" possible grouping.
Chono-Alacalufan-Yagan (Viegas Barros 2005: 83–107)
Esmeralda-Yaruroan (Takame-Jarúroan) (Kaufman 1990, 1994: 62). Esmeralda (Takame) and Yaruro.
Guamo-Chapacuran (Kaufman 1994: 56, 2007: 65).
Kwaza-Kanoê-Aikaná (Koayá, Kapixaná, Aikaná) (Van der Voort 2005).
Jivaroan-Cahuapanan (Kaufman 1990: 42).
Kapixaná-Nambiquara (Price 1978).
Lenmichí (Chibchan, Misumalpan, Lencan) (Constenla 2005, this volume).
Macro-Jê (Rodrigues 1999b; Kaufman 2007: 72–73; Ribeiro 2006; Ribeiro and van der Voort 2010) (See Ribeiro 2006):
Chiquitano (See Adelaar and Muysken 2004.)
Bororoan family
Guató
Jêan family
Jeikó
Kamakanan family
Karajá (dialects or languages)

Karirían family
Krenákan family (Aimoré, Botocudoan)
Maxakalían family
Ofayé
Purían family
Rikbaktsá
Yaté (Fulnió).

Macro-Jê(an) is looked on more sympathetically by many scholars than most other hypotheses of remote relationship in SA. Nevertheless, even its most sympathetic supporters say that it "remains largely a 'working hypothesis'" (Rodrigues 1999b: 165; Ribeiro and van der Voort 2010).

Kaufman's (2007: 72) "Macro-Je cluster" includes Chiquitano in his "Chikitano-Bororoan stock", "Je stock", and "unclassified, possibly macro-Je" languages also Otí, Baenan, and Kukurá. Ribeiro argued that the evidence does not allow Fulniô (Yatê), Guató, or Otí to be classified with Macro-Jêan languages (http://en.wikipedia.org/wiki/Macro-Ge%C3%AA_languages). Adelaar (2008) presents arguments for the inclusion of Chiquitano, which Ribeiro and van der Voort (2010) see as more probable. They conclude, "evidence for the inclusion of different families in the Macro-Jê stock is rather uneven, ranging from the fairly proven (Maxakalí, Krenák, and other, extinct Eastern Macro-Jê languages, Ofayê, Karajá, etc.) to the virtually untested (Guató and, to a lesser degree, Yatê)" (Ribeiro and van der Voort 2010: 548). Ribeiro hypothesizes that Maxakalían, Krenakan, Kamakanan, and Purían may form a subgroup inside Macro-Jê (Ribeiro and van der Voort 2010). The evidence presented in Ribeiro and van der Voort (2010) relating Jabutían and Jêan families seems pursuasive.

Greenberg's (1987) version of Macro-Gê included the languages typically associated with Macro-Jê plus Oti [Otí] and Yabuti [Jabutían], but as Ribeiro (2006: 422) reports for Otí, "the meager available data do not support its inclusion into the Macro-Jê stock".

Macro-Tupían-Cariban (Rodrigues 1985; Kaufman 2007: 74; Gildea this volume). Tupían and Cariban.

Mosetén-Chonan (Suárez 1969, 1973, 1974, 1977; Kaufman 1994; Swadesh 1959, 1962).[78] Mosetenan and Chonan.

Paezan-Barbacoan (Kaufman 1990, 1994). Paezan "(sub)stock" and Barbacoan family.

Quechumaran (Campbell 1995, 1997; Kaufman 2007: 70); see Torero's (2002: 151–160) objections; Cerrón-Palomino 1994). Quechuan and Aymaran.

Tupían-Cariban-Maro-Jê (a.k.a. Tu-Ka-Jê) (Rodrigues 1985).

Yurí-Tikuna-Munichi. Kaufman's (2007: 68) "Jurí-Tikuna stock" groups Yurí, Tikuna, and Munichi. (See Tikuna-Yurí above.)

Zaparoan-Yaguan (Payne 1985). Zaparoan and Yaguan.

Some of these proposals may eventually come to be established, though the burden of proof is high and at present they remain just hypotheses without sufficient support. Dixon and Aikhenvald (1999: 15) say "a similar refutation" to their demonstration against grouping Arawakan and Arawán together "could be provided for almost all other (perhaps for all other) suggestions of higher-level genetic relationships between established language families". However, this is too pessimistic – it is likely that some new cases of genetic relationship in SA will be demonstrated, perhaps some from this list, just as some others have been demonstrated in recent times, for example Harákmbut-Katukinan (probable), Lule-Vilela, Pano-Takanan, Paya (Pech) as Chibchan, Tikuna-Yurí, etc. Still, caution and deployment of appropriate methods are called for in reaching conclusions of remote linguistic relationship (Campbell and Poser 2008).

7.2. Other proposed distant genetic relationships

Some other hypothesized long-range relationships do not as yet have much evidence in their favor and do not seem as promising, but nevertheless are supported by some linguists, and therefore may merit investigation. They include:

Bora-Witotoan stock (Kaufman 2007: 69):

- Boran: Bora-Miranya, Bora-Muinane
- Witototan:
  - Andoquero
  - Coeruna
  - Ocaina
  - Nonuya
  - Murui(-Witoto)
  - Orejón-Coto [Koihoma]
  - Minica [Meneka(-Witoto)]
  - Andoque.

Chibchan and Uto-Aztecan (Holt 1977).

Cunsa-Kapixanan (Kaufman 1990, 1994, 2007; Swadesh 1959). Cunza and Kapixaná.

Jivaro-Cahuapanan stock (Kaufman 2007: 68):

- Jivaroan
- Cahuapanan
- Urarina.

Kalianan stock (Greenberg 1987; Kaufman 2007: 68): Ahuaqué, Kaliana, Maku (isolate in Roraima, Brazil).

Katembrí-Taruma cluster (Kaufman 2007: 73):

- Katembrí-Taruma
- Unclassified
  - Kariri

Tuxá
Pankararú
Natú
Xukurú
Gamela
Wamoé (Uamué)
Xokó.

Macro-Andean cluster (Kaufman 1994: 62, 2007: 69):
Jivaro-Cahuapanan stock
Záparo-Yaguan stock
Bora-Witotoan stock.

Macro-Arawakan (Kaufman 1990, 1994: 57, 2007: 65–67; Payne 1991; Derbyshire 1992: 103):
Guajiboan[79]
Maipurean (Arawakan) (sub-)stock
Arawán
Candoshi.[80]

Macro-Culle-Cholonan (Kaufman 1994: 64): Culle and Cholonan.

Macro-Guaicuruan (Mason 1950: 201–4):
Guaicuruan
Matacoan.
Mason also believes Chiquito (Chiquitano) may eventually be joined, and that Lule-Vilela is a possibility.

Macro-Guaicuruan cluster [Macro-Waikuruan] (Kaufman 2007: 72):
Matacoan [Matakoan]
Guaicuruan [Waikuruan]
Charruan
Mascoyan [Maskoian]
Lule-Vilela
Zamucoan [Samukoan].

Macro-Huarpean [Macro-Warpean] cluster (Kaufman 2007: 7): Warpe language area [Huarpean] (Allentiac, Millcayac) and Mura-Matanawian stock/family.

Macro-Lecoan (Kaufman 1994: 64):
Sechura-Catacaoan stock: Sechura and Catacaoan
Leco.[81]

Macro-Otomakoan (Kaufman [2007: 65], slightly changed from Kaufman [1990]):
Tuyoneri language area: Huachipaeri (Harakmbut), Amaracaeri
Otomacoan: Otomaco, Taparita, Trumai.

Macro-Paezan (Kaufman 1990, 1994: 53, 2007: 63–64):
Kunsa-Kapixaná stock: Kunza, Kapixaná, Betoi
Paez-Barbacoan stock
Andaquí

Paez group: Paez, Panzaleo
Coconuco group: Coconuco, Totoró, Guambiano (Moguéz)
Barbacoan family:
Northern Barbacoan group: (Awa-)Coaiquer, Muellama, Pasto
Southern Barbacoan group: Cayapa (Chachi), Tsáfiki (Colorado, Tsáchela), Cara (Caranqui), Itonama, Guarao.

Macro-Panoan (Kaufman 1994: 65, 2007: 70–71):
Pano-Takanan: Panoan and Takanan
Mosetén-Chon stock: Mosetenan language area and Chonan family.

Macro-Puinavean cluster (Kaufman 1994: 60, 2007: 67–68):
Puinavean stock
Katukinan family
Kalianan stock.

Macro-Tequiraca-Canichana cluster or Tequiraca-Quenichana stock (Kaufman 1994: 61, 2007: 68): Tequiraca, Canichana.

Macro-Tucanoan (Greenberg 1987):
Auixiri
Canichana
Capixana
Catuquina
Gamella
Huari
Iranshe
Kaliana-Maku
Koaia
Movima
Muniche
Nambikwara
Natu
Pankaruru
Puinave
Shukuru
Ticuna-Yuri
Tucanoan
Uman.

Macro-Tupí-Guaranían (Mason 1950: 236–238)
Tupí-Guaraní[an] (Tupían)
Miranya (Bora)
Witoto[an]
Záparo[an]

"And a number of less important languages which are generally placed in one or another of these 'families'" (Mason 1950: 236).

Makúan-Arawakan (Nadahup-Arawakan) (Martins 2005: 342–370). Aikhenvald (2006: 237) argues against this hypothesis, saying it is based on "misconception, poor data from Arawak[an] languages, and lack of proper application of the comparative method".

Mura-Matanawian stock/family: Muran and Matanauí (Kaufman 2007: 7)

This hypothesis would appear to have a curious history which casts doubt on it. Nimuendajú (reported in Rowe 1954: 16) said that he had once "compared, out of curiosity, eight words from the Matanawü language with the corresponding terms from the Mura language […] which […] was enough to make Rivet classify Matanawü with the Mura dialects". Nimuendajú said he later collected more Mura material and "determined that only four of the eight comparisons are valid" (whatever "valid" might mean in this context), and Nimuendajú himself treated "Matananü" and Mura as isolated languages (Rowe 1954: 16). Nevertheless, this grouping, though abandoned by Nimuendajú from whom it came, has been repeated in classifications from Rivet to Loukotka and on to the present in Kaufman (2007), though it probably should be abandoned.

Pano-Takanan and Yanomaman (Migliazza and Campbell [1988]).

Quechumaran stock (Kaufman 2007: 70): Quechuan, Aymaran [Jaqui complex], Uru-Chipaya language area (including Puquina).[82]

Takame-Jarúroan stock (Kaufman 2007: 68): Esmeralda (Tacame), Yaruro, and Cofán.

Záparo-Yaguan stock [Sáparo-Yawan stock] (Kaufman 2007: 69):

- Sáparo family:
  - Záparo-Conambo
  - Arabela-Andoa
  - Iquito-Cahuarano
- Yaguan family
  - Yagua
  - Peva
  - Yameo (Yaaméo)
  - Taushiro (Pinchi)
  - Omurano
  - Sabela (Waorani)

None of these proposals should be embraced as real or even probable language families, but as mere hypotheses which at present lack evidence.

7.3. Rejected proposals

Several hypotheses of remote relationships that have been made have been examined carefully and found to give no positive results, and therefore should be abandoned once and for all (see Campbell 1997: 260–329):

Amerind (Greenberg 1987) (see Campbell 1997; Campbell and Poser 2008).
Andean (Greenberg 1987):
- Aymara
- Itucale-Sabela
  - Itucale
  - Mayna
  - Sabela
- Cahuapana-Zaparo
  - Cahuapana
  - Zaparo
- Northern Andean
  - Catacao
  - Cholona
  - Culli
  - Leco
  - Sechura
- Quechua
- Southern Andean
  - Qawasqar
  - Mapudungu
  - Gennaken
  - Chon language
  - Yamana

Andean-Chibchan-Paezan (Greenberg 1987). Composed of Greenberg's groupings Chibchan-Paezan and Andean.
Arawan-Arawakan (Ehrenreich 1897; Matteson 1972; see Dixon and Aikhenvald 1999: 12–15).
Candoshi-Jivaroan (Greenberg 1987).
Cariban-Arawakan-Chibchan-Mayan (Schuller 1919–1920).
Chibchan-Paezan (Greenberg 1987): containing Greenberg's Macro-Chibchan and Macro-Paezan.
Equatorial (Greenberg 1987):
- Macro-Arawakan
- Cayuvava
- Coche
- Jivaro-Kandoshi
  - Cofán

Esmeralda
Jivaro
Kandoshi
Yaruro
Kariri-Tupi
Piaroa
Taruma
Timote
Trumai
Tusha
Yuracaré
Zamuco

Equatorial-Tucanoan (Greenberg 1987): comprised of Greenberg's Equitorial and Macro-Tucanoan groups.

Ge-Pano-Carib (Greenberg 1987): made up of Greenberg's Macro-Carib, Macro-Panoan, and Macro-Gê.

Macro-Carib (Greenberg 1987). Greenberg's Macro-Carib was composed of Andoke, Kukura, Witotoan, Peba-Yaguan, and Cariban. Gildea and Payne (2007) show that the evidence does not make this a viable hypothesis. Kukurá, as mentioned earlier, is ficticious.

Macro-Chibchan (Greenberg 1987):
Cuitlatec (isolate of Mexico)
Lenca[n] (Honduras and El Salvador)
Chibchan
Paya (now known to be a Chibchan language)
Tarascan (isolate of Mexico)
Yanomam[an]
Yunca-Puruhan

Macro-Paezan (Greenberg 1987):
Allentiac
Atacama
Betoi
Chimu-Mochica
Itonama
Jirajara
Mura[n]
Paezan
Timucua (of Florida)
Warrao

Macro-Panoan (Greenberg 1987):
Charruan
Lengua

Lule-Vilela
Mataco-Guaicuru
Moseten
Pano-Tacanan

Mayan-Araucanian (Stark 1970).
Mayan-Arawakan (Noble 1965: 26).
Maya-Chipaya, and Maya-Chipaya-Yungan (Olson 1964, 1965; Stark 1972; see Campbell [1973] 1993).
Quechua-Hokan(-Siouan) (Harrington 1943; cf. Mason 1950: 197).
Tarascan-Quechua (Swadesh 1967: 92–93).
Southern Amerind (Greenberg 1987). Composed of Greenberg's Andean-Chibchan-Paezan, Equatorial-Tucanoan, Ge-Pano-Carib.
Yurumanguí-Hokan (Greenberg 1987; Rivet 1943; cf. Mason 1950: 188).

Still others are abandoned for lacking plausibility as well as for not having convincing evidence: Cariban-African (Kennedy 1856); DURALJAN (Uralic, Dravidian, Altaic, Japanese-Korean, Andean-Equatorial) (Hakola 1997, 2000); Jêan and Old World Macrofamilies (Aikhenvald[-Angenot] and Angenot 1989); Quechua-Aymara-Sumerian-Assyrian (Patrón 1907); Quechua-Oceania (Imbelloni 1926, 1928); Quechua-Maori (Dangel 1930; Palavecino 1926); Peruvian languages-Polynesian (Christian 1932); Quechua-Tungusic (Bouda 1960; see Hymes 1961)[83]; Quechua-Turkish (Dumézil 1954, 1955); South American-East Asian languages (Koppelmann 1929); South American languages and Japanese (Gancedo 1922; Zeballos 1922); Sumero-Assyrian and Quechua and Aymara (Patrón 1907); Uto-Aztecan and Panoan (Wistrand-Robinson 1991), among others.

8. Conclusions

The extensive linguistic diversity in South America is definitely not to be underestimated. Much progress has been made in the classification of these languages, and no doubt more discoveries await us, if careful methods are followed. Nevertheless, it should not be anticipated that a significant number of the families and isolates considered at present as independent will prove to be related with others reducing the total number by a significant margin, though there may be more hope for advances in cases where documentation was lacking but is now becoming available. Future research offers many opportunities and the findings will be exciting. Much remains to be done.

Notes

1 I thank Willem Adelaar, Harald Hammarström, Terrence Kaufman, and Eduardo Ribeiro for helpful comments on earlier versions of this chapter; they are not responsible for any mistakes or misunderstandings that are mine, and may not agree with everything presented here.

2 The classification of South American languages in Campbell (1997) relied heavily on Kaufman's (1994) survey. There, it was possible to include historical linguistic information beyond just the classification, for example the reconstructed phonology, claims about homelands of language families, etc. Given space limitations, it is not possible to include that information here. This classification differs from Campbell (1997) in not relying on Kaufman's classification and in including recent discoveries and claims from a range of scholars. My own personal experience with South America is limited to Matacoan and Quechuan, and in a minor way also with Chibchan, Guaicuruan, and Tukanoan.

3 As will be seen in this chapter, however, these figures are relative – much depends on how some little-known languages, mostly extinct, are treated.

4 Note, on the other hand, that Kaufman (2007) lists only 427 numbered languages, both alive and extinct, in his classification of all the languages of South America.

5 It should be noted that the presence of Garífuna in Central America is not pre-Columbian. African slaves mingled with the indigenous people of Saint Vincent and Dominica, and later were deported by British forces to Central America, the bulk arriving around 1832.

6 The Chané of Argentina and Bolivia speak Chiriguano (a Tupí-Guaraní language) today, though they are usually interpreted as Arawakan people who migrated into the area, later giving up their language. This interpretation, however, has little actual evidence and so is not accepted by all.

7 For example, though great strides have been made in the description of Amazonian languages in recent years, Galucio and Gildea (2010: 406) calculate that "23 % [of the indigenous languages of Brazil still] have practically nothing of scientific relevance" written on them and "55 % of the languages have little to no scientific study".

8 Aikhenvald (2002) seems not to have understood the complicating factor of languages named for the rivers associated with them (see Campbell 2003).

9 "O quadro geral da classificação genética […] das línguas sul-americanas pouco mudou nos últimos 50 anos."

10 "Las letras juntas forman las sílabas. Las sílabas sa, se, si, etc., frecuentísimas en la lengua caribe, en la tamanaca, aunque su hija, no se hallan nunca, y todo lo que el caribe expresa por sa, etc., los tamanacos lo dicen con chá. Así por ejemplo, la escudilla que los caribes llaman saréra los tamanacos la llaman charéra. Es también dialecto de la lengua caribe el pareca. Pero estos indios, dejando a los tamanacos, y carbies, dicen suavemente, al modo francés, sharéra [<sh> = /š/, spelling changed by Spanish translator]. Conjetúrese por esta palabra de las otras."

11 Mason (1950: 236), for example, says of one of these large groupings, his proposed Macro-Tupí-Guaraní (with Tupían, Wiitotoan, Miraña, and Zaparoan): "it is not advanced with any claim to certainty or with any evidence of proof, but as a result of opinions, deductions, and intuitions of the several authorities and of the present writer […] *As all these families are contiguous a genetic connection is not unreasonable*" [emphasis mine].

12 Everett (2008: 4, 28–29) believes there was only one language with dialects, not a Muran language family with distinct languages.
13 Aushiri (Awshiri) [Tequiraca] and Auishiri (Awishiri) [Sabela] should not be confused.
14 Kaufman's Jukuna language area, with Jukuna (emergent language).
15 Kaufman's Karu language area.
16 *Ethnologue* gives Guana (Kinikinao, Chuala, Chana, East Paraná, Kinihinao, Equinao) as a separate language, "related to Terêna, [and] Iranche".
17 Chané (with earlier Izoceño) belongs to Tupí-Guaranían (Tupían family). Chané is usually reported as former Arawakans who shifted to a Guaranían language, though no linguistic evidence of this assumed pre-Guaraní language has survived. Note that Chané is a name applied to several small Arawakan groups; it should not be confused with Chaná, though this has often happened (Mason 1950: 216).
Layaná had been considered Arawakan, sometimes Guaicuruan (cf. Mason 1950: 205).
18 Javeriano and Loretano appear to be dialects of Mojo, though Rodríguez Bazán (2000: 136) says they are unclassified.
19 A language or language area for Kaufman.
20 *Ethnologue* classifies these language in their Purus branch of Southern Maipuran (Arawakan):
Apurinã, Iñapari, Machinere (Manchinere, Manchineri, Manitenerí, Manitenére, Maxinéri), Mashco Piro, and Yine (Piro, "Piro", Pirro, Pira, "Simirinche", Simiranch, Contaquiro). Ethnologue says Machinere is distinct enough from Yine (Piro) "to need separate literature" and that "Manitenére may be different from Machinere".
21 Aikhevald (1999a:68) gives Mashko-Piro as a separate language in her Piro-Apuriná group of South-Western Arawak, but indicates it may be a dialect of Iñapari.
22 For Kaufman "Kampa language area".
23 Fabre (2009) has as the major divisions of Arawakan: Western Arawakan, Central Arawakan, Southern Arawakan, and Nourhern Arawakan. He follows Payne (1991) generally, though Payne has 12 branches of Arawakan:
    1. Amuesha
    2. Chamikuro
    3. GRUPO ORIENTAL
        3.1. Waurá
        3.2. Mehinaku
        3.3. Yawalapiti
        3.4. *Custenau
    4. GRUPO PARECIS-SARAVECA
        4.1. Parecis
        4.2. (*)Saraveca
    5. GRUPO MERIDIONAL
        5.1. SUBGRUPO DEL PARANÁ
            5.1.1. Terêna
            5.1.2. *Kinikinau
            5.1.3. *Guaná
        5.2. Baure
        5.3. SUBGRUPO MOXO
            5.3.1. Ignaciano
            5.3.2. Trinitario

6. GRUPO PIRO-APURINÃ
   6.1. Piro
   6.2. Apurinã
   6.3. Iñapari
7. GRUPO CAMPA
   7.1. Asháninca
   7.2. Ashéninca
   7.3. Caquinte
   7.4. Machiguenga
   7.5. Nomatsiguenga
8. Wapishana
9. GRUPO PALIKUR
   9.1. Palikur
   9.2. *Marawan
10. GRUPO CARIBEÑO
   10.1. Garífuna
   10.2. SUBGRUPO TA-ARAWAK
      10.2.1. Lokono
      10.2.2. SUBGRUPO GUAJIRO
      10.2.2.1. Guajiro
      10.2.2.2. Paraujano
   10.3. *Taino
   10.4. *Shebayo
11. GRUPO AMAZÓNICO NORTE
   11.1. Resígaro
   11.2. SUBGRUPO YUCUNA-GUARU
      11.2.1. Yucuna
      11.2.2. *Guarú
   11.3. SUBGRUPO PIAPOCO
      11.3.1. Achagua
      11.3.2. Piapoco
      11.3.3. *Amarizana
      11.3.4. (*)Tariano
   11.4. Cabiyari
   11.5. SUBGRUPO CARRU
      11.5.1. Maniba
      11.5.2. Carutana
      11.5.3. Curripaco
      11.5.4. Ipeka
      11.5.5. Catapolitani (Baniwa do Içana)
   11.6. SUBGRUPO WAINUMÁ-MARIATÉ
      11.6.1. *Wainuá
      11.6.2. *Mariaté
   11.7. *Anauyá
   11.8. SUBGRUPO GUAREQUENA-MANDAHUACA
      11.8.1. Guarequena (Warekena)
      11.8.2. Mandahuaca (Mandawaka)

11.9. SUBGRUPO DEL RÍO NEGRO
11.9.1. *Yumana
11.9.2. *Pasé
11.9.3. *Cayuishana (kaišana)
11.10. SUBGRUPO BARÉ
11.10.1. *Marawa
11.10.2. Baré
11.10.3. *Guinau
11.11. *Maipure
11.12. SUBGRUPO MANAO
11.12.1. *Manao
11.12.2. *Cariaya
11.13. *Waraicú
11.14. *Yabaana
11.15. *Wirina
11.16. Shiriana (Bahuana)
11.17. *Aruán
12. GRUPO BANIVA-YAVITERO
12.1. Baniva
12.2. Yavitero

24 Kaufman's (2007: 67) classification is:
Arawán family
Arawá Brazil
Kulina (Culina, Madihá) Brazil, Peru
Dení Brazil
Jamamadí language area
Jamamadí emergent language (Tukurina may be a separate language) Brazil
Kanamantí emergent language Brazil
Jarawara emergent language Brazil
Banawá emergent language Brazil
Paumarí Brazil
Zuruahá (Suruahá) Brazil

25 *Ethnologue* has a "Pasto" branch of Barbacoan which has two languages, extinct Barbacoas and Awa-Cuaiquer.

26 In Kaufman (2007: 69) Urarina and Puelche appear to be listed as Cahuapanan [Kawapánan] languages, but this appears to be a printing error.

27 Mason (1950: 272) said of "Coraveca and Covareca; Curucaneca and Curuminaca" that the four "are separate and very different".

28 Loutokta (1968: 84–85) lists several of the dialects of Otuke as independent Bororoan languages, along with also extinct Aravirá.

29 Loukotka's (1968: 153–154) Kahuapana stock also includes Yamorai, extinct Miquirá (Shuensampi), and extinct Ataguate and Pamdabeque, saying nothing is known of the last two.

30 In Kaufman (2007: 67) Candoshi is given as a member of the Arawán family (in the "Macro-Arawakan cluster"); this appears to be a printing error.

31 Not to be confused with "Omagua" (Kokáma/Omágwa), often classified as a Tupí-Guaranían language, but which Cabral (2007) argues is a mixed language which cannot be classified.
32 *Ethnologue* includes in its "Waiwai" branch of East-West Guiana (branch of Northern Cariban): Waiwai and Sikianan, with Sikiana [Sikiâna, Shikiana, Sikïiyana, Chiquiana, Chikena, Chiquena, Xikujana, Xikiyana] and Salumá. (Sikiana is said to be close to Salumá.)
33 *Ethnologue* distinguishes four Tunebo languages: Angosturas Tunebo, Barro Negro Tunebo, Central Tunebo, and Western Tunebo.
34 "No podemos clasificar la extinguida lengua de los Changos, pueblo de la costa de Chile septentrional" (Tovar 1961: 49).
35 Kaufman (2007: 69) appears also to add Culle [Kuli] to his Cholonan family, but since the Cholonan family (with Culle included) is the only entity listed in his "Macro-Kulyi-Cholonan cluster", this may be a printing error where Culle was intended as a separate entity parallel with Cholonan in this "cluster".
36 In Kaufman (2007: 69) "Puelche" and Urarina are listed as Cahuapanan [Kawapánan] languages, but this appears to be a printing error.
37 Kaufman (2007: 69) appears to include Culle [Kuli] to his Cholonan family; however, since the Cholonan family (with Culle included) is the only entity listed in his "Macro-Kulyi-Cholonan cluster", this may be a printing error where Culle was intended as a separate entity parallel with Cholonan in this "cluster" – thus, related to Cholonan, but more distantly.
38 Some scholars also give Atacame as an alternative name; this is not to be confused with Atacameño/Atacama (cf. Mason 1950: 187).
39 Loutotka (1968: 91–92) has a "Gamela stock" in which he placed also following extinct "languages" of which nothing is known: Arañí, Puti (Poti), Anapurú, Uruati, Cururi, Guanare, Coroatá, Guaxina, Tacarijú, as well as Curinsi said to be "an extinct dialect of Gamela".
40 Loukotka (1968: 149–150) gave the names of several presumed dialects of the language, though saying nothing is known of any of them except the one from Santa Rosa.
41 In his "Huarpe stock" Loukotka placed, in addition to these two languages, also: Oico (Holcotian), Orcoyan (Oscollan), Chiquiyama, Tuluyame (Puelche Algarrobero), Comechingón, Michilenge (Puntano), and Olongasto – "nothing" is known of most of these "languages".
42 Rodrigues' (1999b: 167) Southern Jê includes:
    Kaingang
    Xokleng (Shocleng)
    Ingaín.
   Ethnologue includes extinct São Paulo Kaingáng in its Kaingang branch.
43 Loukotka (1968: 64) lists with his "Northern Languages" in his Kaingán stock also Pinaré (Uruguay, Brazil), known from "only a few words and patronyms", and Xiqui (Brazil), of which he says nothing is known. His "Southern Languages" of this stock, in addition to Wayana, also include extinct Ingain (Tain) and Amhó (Ivitorocái) (Loukotka 1968: 65).
44 Loukotka (1968: 74–75) included the additional names of extinct languages in his "Southern Languages" branch of his "Kamakan stock": Mangaló (Mongoyo, Monshoko), Dendi, Catolé, Imboré (Amboré), Piripiri, Payaya, saying nothing was known of any except the first.

45 Rodrigues (1999: 167) lists only Karajá as the only language of this family.
46 Loukotka (1968: 87) mentioned that there are "only three words" known of this language, but in comparison with other languages (Loukotka 1968: 88) he listed five.
47 Loukotka (1968: 71–72) listed many dialects with names for this language.
48 There appears to be an error in Kaufman (2007: 70), making Leco appear as a member of the "Katakáoan family" rather than a separate member of Kaufman's "Macro-Lekoan cluster".
49 Mason (1950: 206) liked "Lulela" as a "melliflous" term for the family.
50 Vilela has only one or perhaps two surviving semispeakers, but no one fully competent in the language (Golluscio and González 2008).
51 Loukotka (1968: 53) lists also as members of his Vilela stock the following extinct languages, of all of which he says nothing is known: Pasain, Ocole, Omoampa, Macomita, Yecamita, and Sinipi.
52 As many note, Makú is a pejorative name and therefore an alternative name should be sought for the family. However, since the composition of the family has been uncertain and no other alternative has yet been offered that covers the full range of the languages involved, I have retained here the Makúan name that is now entrenched in the literature.
53 Mapudungu is included in the "Kaweskar language area (Qawasqar)" in Kaufman (2007: 7), though this appears to be a printing error. Mapudungu was probably intended as a separate unrelated entity in the geographical section "The Cone".
54 Loukotka (1968: 67–68) listed also among his "Western Languages" of his "Mashakali stock" the following names: Kumanasho (Cumanaxo), Moakañi, Pañáme, Paraxim, Bonitó, Goaña, Malacaxi, Mapoxo, Xonin, Moxotó, Toéjicana, Vocoin, Batum. He said nothing is known of any of these except Kumanasho and Pañáme, both poorly attested. In his "Eastern Lanagues" of this stock in included the further names: Tocoyó, Mauinuca, Canarin, Tucanuçú, Aboninim, Catiguaú, and Hahaháy, all extinct with nothing known of them except the last.
55 Loukotka (1968: 154) added eight other "extinct" languages of which nothing was known to his "Munichi stock": Tabaloso, Chasutino (Cascoasoa), Huatama (Otanavi), Lama (Lamista), Suchichi (Suriche), Zapaso, Nindaso, and Nomona.
56 Loukotka (968: 149) added also extinct Maiba (Amaygua), of which he said nothing is known, to the family. Kaufman (2007: 65) also lists the isolate Trumai as a member of the Otomacoan family; this may be a printer error.
57 Ethnologue gives Panobo as an extinct Panoan language unclassified in Panoan, with alternate names: Manoa, Pano, Pana, Pelado, Wariapano, Huariapano.
58 Rodríguez Bazán (2000: 136) considers Toromona an unclassified language whose speakers have not yet been contacted by non-Indians.
59 Aikhenvald and Dixon (1999: 344) list "Arasa" as Takanan, though this is far from certain. There are three related names – Arasa, Arazaire, Arasairi – assigned unclear classifications in the literature. Nordenskiöld (1905), the sole source on Arasa, said: "die Arasa sprechen Tacana mit atsahuacawörtern. Die Atsahuaca sprechen eine Panosprache" ["the Arasa speak Tacana with Atsahua words. The Atsahua speak a Panoan language"] (Girard 1971: 17). This statement has caused much confusion. Loukotka (1968: 176) says under "Tacana" stock: "Arasa – language spoken by the greater part of the Arazaire tribe (of Pano stock) on the Marcopata and Arasa Rivers." Thus the language is sometimes identified as Tacanan, sometimes Panoan. Under his "Tacana Stock" Loukotka lists ten

"Arasa" words (1968: 177), and with his "Pano Stock" (1968: 174) he lists nine words of "Arazaire", "language […] on the Marcapata River" (1968: 173). Loos (1999) and Shell (1985) also list "Arazaire" (Arasa) as Panoan. A comparison of Loutkotka's "Arasa" and "Arazaire" reveals they are either the same language or closely related, certainly not of different families:

	Arazaire ("Panoan")	Arasa ("Takanan")	
sun	*fuari*	*huári*	(note *huari* in several Panoan languages)
one	*nunchina*	*nonchina*	
two	*buta*	*béta*	
head	*mashashue*	*é-osha*	
water	*humapasha*	*éna*	(note other Panoan languages with *éna, xéne,* etc.)
maize	*hoki*	*shishe*	
house		*so:po*	(note *shopo, shobo* in Panoan languages)

Three of the six words given in both languages match closely ('sun', 'one', 'two'); the other Arasa forms mostly match cognates in Panoan languages. Clearly both the names and the family status of the language(s) are uncertain, and so "the entire problem of confirmed genetic relationship [of Arasa] must be held in abeyance" (Girard 1971: 17).

Loutkotka's (1968: 177) isolate "Arasairi" is another name for Toyeri (a.k.a. Huachipairi), which Kaufman classifies as Harákmbut (see Wise 1999: 311).

Aikhenvald (1999b: 344) lists Mabenaro as another extinct Takanan language.

60 Ochosuma (Uchuzuma) is sometimes cited as a dialect of Puquina (Tovar 1961: 48), though this appears to be due to the frequent mistake earlier of classifying Puquina with Uru. Ochozuma is just an older alternate name for Uru.

61 In Kaufman (2007: 70), Pukina appears as a member of his "Uru-Chipaya language area" which is probably a printing error, with Puquina probably intended as a separate entity within his Quechumaran [Kechumaran] stock.

62 Loukotka (1968: 66) gives Coroado as a separate member of his "Puri stock", calling it an "extinct language with unknown proper name". He lists as "extinct and unknown languages that may have belonged to the same [Puri] linguistic group" the following: Caracatan, Bucan, Arasi, Bacunin, Aruan, Bocayú, Aripiado, Aradé, Guaraxué, Sacarú, Paraíba, Pitá, Xumeto, Guarú, Lôpo (Rôpo), Abatipó, Caxine, Caramonan, Xamixumá, Waitaka (Goytacaz) (Loukotka 1968: 67–68).

63 The inclusion of Mapudungu in Kaufman's (2007: 7) "Kaweskar language area (Qawasqar)" appears to be a printing error, with Mapudungu probably intended as a separate unrelated entity in the geographical section "The Cone".

64 This Aushiri (Tequiraca) and the Auishiri variant name for Sabela should not be confused.

65 Barnes' (1999: 209) classification of Tucanoan is:

Western Tucanoan
- Western north
  - Koreguaje
  - Secoya
  - Siona

Western south: Orejón
Macaguaje (Makawahe) [Piohé] Ecuador, Peru
Teteté (Eteteguaje) Ecuador, Colombia
Orejón (Coto, Payoguaje, Payaguá) Peru
Yauna (Jaúna) Colombia
Central:
Cubeo
Tanimuca/Retuarã
Eastern Tucanoan
Eastern north
Piratapuya
Tucano
Wanano
East central
Bará/Waimajã
Carapana
Desano
Siriano
Tatuyo
Tuyuca
Yurutí
Eastern south
Barasano/Taiwano
Macuna.

We note that most classifiers do not include the extinct Tucanoan languages (or other languages typically grouped wth Tucanoan): Arapasso (Arapaso) and Retuarã (Tanimuca).

66 *Ethnologue's* Northern branch of its Western Tucanoan subgroup does not include Orejón and Yuna, but does include in addition: a Siona-Secoya branch (containing Secoya [Angotero, Encabellao (sic), with dialects Angotero, Piojé], Siona, and Macaguaje) and Tama.

67 Crevels (this volume) gives Secoya and Pai Coca as distinct Tukanoan languages in Ecuador.

68 *Ethnologue* has in its Eastern Tucanoan branch a Bara subgroup which contains: Bara, Pokangá, Tuyuca, Waimaha (Waimaja, Northern Barasano, Barazana, "Bará"), and Wajiara (Yurutí). Tuyuca (Tuyuka, Tuiuca, Dochkafuara, Doka-Poara, Doxká-Poárá, Tejuca) is listed as a separate language (dialect: Tsola), as is Yurutí (Juruti, Yuruti-Tapuya, Luruty-Tapuya, Yuriti, Juriti, Juriti-Tapuia, Wayhara, Patsoka, Wajiaraye). Barasana (Barasano, Paneroa, Eduria, Edulia) is also considered a separate language, with dialects: Taiwano [Taibano, Taiwaeno], Janera, Comematsa.

69 Dietrich (2007) considers the Chiriguano group to be composed of various dialects, with Tapiete a separate but very closely related language. Simba, Chané, and Izoceño are subdialects of Ava; the Chané are the modern decendants of Izoceño.

70 Tovar (1961: 67) speaks of three separate languages, Itucale, Simacu, and Urarina, mentioning that Rivet and Loukotka considered these names as three synonyms. In Kaufman (2007: 69) Urarina and Puelche appear to be listed as Cahuapanan [Kawapánan] languages, but this seems to be a printing error.

71 Mason (1950: 246) lists Fitita as an unclassified language, saying some place it with Witotoan (see Loukotka 1968: 188). It may be just a misunderstood ethnonym for Witoto.
72 Loukotka (1968: 89) listed two additional extinct members of his "Shukurú stock": Paratió (Prarto) [only a few words known] and Garañun [nothing known]. Of his six comparisons between Shukurú and Paratió, three are very similar, *mãzyé/mazya:* 'tobacco', *kiá/kiá* 'sun', and *sheñupre/sheñup* 'man', and three are rather different, *chilodé/vovó* 'tooth', *bandalák/bolúdo* 'ear', *klari:mon/limolago* 'moon'. Clearly no solid conclusion about classification is warranted here. Some of these could involve loanwords, e.g. 'tobacco' and 'sun'.
73 Loukotka (1968: 152–153) has Masamae (Mazan, Parara) as a distinct Yaguan language, and added also extinct Caumari (Cahumari), of which he says nothing is known.
74 Loukotka (1968: 76) included also Carpoto in his "Fulnio stock" – an extinct language of which nothing is known.
75 Loukotka (1968: 48) proposed a "Chechehet stock" with Chechehet, Querandi (Carendie, Querendí), and Tubichaminí as its members, though this is not sustained by most scholars since the information on these languages is too limited to reach reliable conclusions. Viegos Barros (2005: 70–71) argued that Querendí may be related to Gününa Küne.
76 "Este idioma no ha dejado restos que den esperanzas de una solución al problema de clasificarlo" (Tovar 1961: 29).
77 I thank Eduardo Ribeiro for pointing out the case of Kukurá and its history to me.
78 Swadesh (1959, 1962) grouped Mosetén, Chon, and "Hongote"; Hongote was a phantom South American language, due to Brinton's mistaken identification of a vocabulary from Tlingit and another from a Salishan language (see Section 6 "Phantom languages").
79 Kaufman (1994: 57) reports that "virtually all major 'lumpers' and classifiers group Wahivoan [Guajiboan] with Arawakan. The hypothesis deserves to be tested or looked into, but I have so far seen no evidence to convince me of the connection".
80 In Kaufman (2007: 67) Candoshi is listed as a member of the Arawán family, in the "Macro-Arawakan cluster" but this seems to be a printing error.
81 There may be a printing error in Kaufman (2007: 70), where in his Macro-Lekoan cluster, Leco appears to be a member of the "Katakáoan family".
82 The inclusion of Puquina [Pukina] in Kaufman's (2007: 70) "Uru-Chipaya language area" appears to be a printing error; Puquina was probably intended to be a separate entity within his Quechumaran [Kechumaran] stock.
83 It is surprising to find Hymes in support of a genetic connection between Quechua and the so-called Altaic languages; he is on record with the statement: "Clearly this attempt [Bouda 1960] […] confirms the genealogical relationship of Quechua with Altaic, letting one recognize that still another ancient American Kultursprache stems from Asia" (Hymes 1961: 362).

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Language endangerment in South America: The clock is ticking[1]

Mily Crevels

1. Introduction

Protecting our planet's endangered natural resources, fragile ecosystems, and local environment seems to have become the responsibility and concern of every citizen in the twenty-first century. At the same time, however, our planet's cultural biodiversity is even more at stake, a fact that seems to concern relatively few citizens. According to UNESCO, 96 % of the world's approximately 6,700 languages are spoken by a mere 4 % of the world's population, over 50 % of the world's languages are endangered, and on average one language disappears every fortnight. These figures do not paint a hopeful picture for the viability of the indigenous languages of South America, which is corroborated by the data presented in this chapter and in a number of earlier publications (e.g. Adelaar 1991, 1998, 2007; Campbell 1997; Grinevald Craig 1997; Grinevald 1998; Crevels and Adelaar 2000–2006, 2001; Crevels 2007; Moore 2007; UNESCO 2009).

The total number of Indians in South America amounts to approximately 13 million, a figure that needs to be interpreted with the proper amount of caution, since the figures given in Table 1 in the "indigenous population" column may be subject to over- or underreporting.

Table 1. Indigenous populations and number of indigenous languages in South America[2]

Country	Total population	Indigenous population	Indigenous languages
Brazil	198,739,300	358,000	177
Colombia	45,644,000	1,392,600	68
Peru	29,547,000	4,045,700	50
Venezuela	26,814,800	536,900	36
Bolivia	9,827,500	4,541,000	33
Paraguay	6,995,700	103,300	18
Argentina	40,913,600	600,300	15
Ecuador	14,573,100	830,400	13
Guyana	772,300	50,000	10
Suriname	481,300	7,000	8
French Guiana	221,500	5,000	7
Chile	16,601,700	692,200	6
TOTAL	391,131,800	13,162,400	420

The relatively high population number for the indigenous people of Bolivia and Peru is mainly due to the number of highland Quechua and Aymara in this region. Although the number of Quechua speakers varies widely according to different sources, there are probably some 8.5 million Quechua speakers[3] (Cerrón-Palomino 1987) across six South American countries Colombia, Ecuador, Peru, Bolivia, Argentina, and Chile. The 2001 Ecuadorian census probably forms a good instance of underreporting, since it registers no more than 499,300 Quichua, whereas many other sources give estimates of between 1.5 and 2.2 million (e.g. Haboud 2004: 70).

Table 2. Estimated indigenous highland and lowland populations of Bolivia and Peru

Country	**Indigenous highland population**	**Indigenous lowland population**	**Total indigenous population**
Peru	3,638,700	333,000	4,045,700
Bolivia	4,100,000	441,000	4,541,000

Despite its large number of speakers Quechua by all measures is to be considered endangered (Adelaar 1991: 50; Hornberger and Coronel-Molina 2004: 9–10). The fate of Quechua, and obviously many other South American indigenous languages, has been greatly influenced and is still being influenced by Spanish. However, in spite of the fact that Quechua is being pushed back by Spanish in many areas, some of its major varieties, such as Ancash Quechua, Ayacucho Quechua, Bolivian Quechua, Cuzco Quechua and Ecuadorian Quechua, are still quite viable (Adelaar with Muysken 2004: 168; see Adelaar, this volume). There are roughly two million Aymara in Bolivia, half a million in Peru, and maybe a few thousand in Chile and Argentina. In pre-Columbian times, Aymara was spoken in a much larger area than today, including most of the highlands to the south of Cuzco in Peru. As such, the expansion of Aymara was comparable to the expansion of Quechua, albeit that Aymara was geographically limited to the central and southern parts of the former Inca Empire (Adelaar with Muysken 2004: 261). After the Spanish conquest in the sixteenth century, Aymara has gradually lost speakers to Spanish and to Quechua; according to Albó (1999), many Peruvian and Bolivian communities, which were once Aymara-speaking, nowadays speak Quechua.

Even though many languages have disappeared since the first contact with the Spaniards, South America still harbors a tremendous diversity of indigenous language families; many more than are found in any other continent (Nichols 1990, 1992; see Campbell, classification, quarter 420 this volume). According to Campbell (this volume), South America is home to one quarter of the world's linguistic diversity, with 108 independent language families and isolates of the total c.420 of the world. This abundance in language families for a comparatively small number of extant languages corroborates the above claim that many languages have al-

ready become extinct. According to Kaufman (1994: 34), "the linguistic diversity in the New World in 1500 was comparable to that of Africa and Oceania of the same period, that is, *extremely diverse* and at the same time *normal*".

Estimates as to the number of language families in South America range from 170 (Tovar and Larrueca de Tovar 1984) to 117 (Loukotka 1968), to 48 families and 70 isolates (Kaufman 1990, 1994), to 52 families and 55 isolates, 107 together (Campbell, classification, this volume).The reason why South America is linguistically so diverse may be attributed to several factors; in pre-Columbian times there were few major empires that had the power to spread linguistic homogeneity across the territory, and the often inaccessible topography of the region served as an additional factor to maintain different language communities over time.

In the present chapter I give an overview of the languages of South America; for each country I list the extant languages and languages that have become extinct in the recent past, the corresponding language families, population numbers of the groups that speak the languages, number of speakers, the degree of endangerment of each language, and, if applicable, other countries in which the languages are spoken. In Section 2, I present a more detailed case study on the Bolivian Amazon, which is followed in Section 3 by a concise overview of the situation in other South American countries. A short discussion and conclusion follow in Section 4.

2. Case study: The Bolivian Amazon Basin

Bolivia can be rougly subdivided into three regions: in the west we find the Andean region above 3,000 meters in altitude, covering 28 % of the national territory; the subandean region, which lies between the higland and the eastern lowlands, comprises the valleys and *yungas* at an average altitude of 2,500 meters, covering 13 % of the national territory; and the eastern lowlands cover 59 % of the country and can be subdivided from the north and northeast to the southeast into the Bolivian Amazon region, the Chiquitanía, and the Chaco region.

The Bolivian Amazon forms part of the Guaporé-Mamoré linguistic area (see Crevels and Van der Voort 2008), named after two great rivers of the Southwestern Amazon region. The Guaporé River forms the natural border between the Brazilian federal state of Rondônia and the Bolivian Santa Cruz and Beni departments, where the river is called Iténez. The Guaporé and Mamoré rivers together drain a part of the tropical lowlands where over 50 different indigenous languages are spoken. Since these languages represent numerous language families and unclassified languages that may be isolates, it is one of the linguistically most diverse regions of South America, and of the world for that matter. This linguistic diversity includes languages belonging to the Pano-Tacanan, Chapacuran, Arawakan, Tupían, Nambikwaran and Macro-Gê families, and a total of 10 language isolates. Unfortunately, numbers of speakers have dwindled under the ecological, physical,

social and Western cultural pressures of the national societies with the result that nowadays more than half of the languages have less than 50 speakers and one third have less than ten speakers.

In the sixteenth century, when the Spaniards first reached what today is the Bolivian part of the Amazon Basin, the area was populated by some 400 groups or tribes with an estimated total of 350,000 individuals who spoke about 39 different languages, most of which belonged to the Arawakan family (Baptista Morales 1995: 71). Today the odd 20 languages still spoken in the region represent five language families (**Arawakan**, **Chapacuran**, **Mosetenan**, **Pano-Tacanan**, and **Tupían**) and no less than six isolates (**Leko**, **Yurakaré**, **Canichana**, **Movima**, **Cayubaba**, and **Itonama**). Several of these isolates have less than a handful of speakers, and Canichana most probably became extinct at the end of the twentieth century.

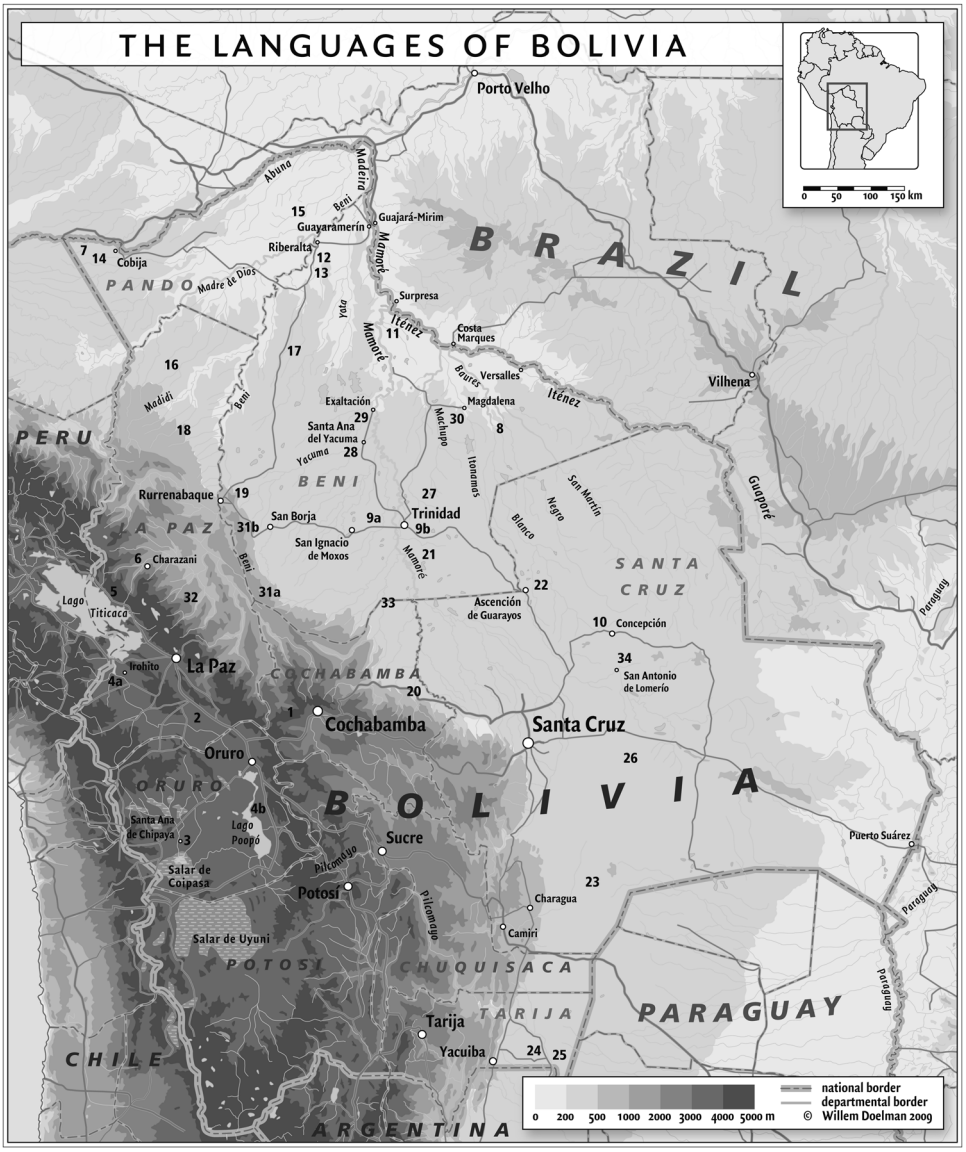
Table 3 shows the demographic numbers of the Amazonian and the other Bolivian groups, and their number of speakers as registered in the Bolivian 2001 census (*Censo Nacional de Población y Vivienda 2001*). In the column of the number of speakers, in some cases a number in bold has been added. These numbers are based on my own observations and those of colleague linguists working in the respective areas.[4] The general location of the languages is indicated on the map *Languages of Bolivia* as numbered in Table 3. According to the 2001 census, the total number of Indians in Bolivia comes to 4,541,000 or 62 % of the total population at that time.

Table 3. Language diversity in Bolivia[5]

	Language	**Genetic classification**	**Location**	**Population**	**Speakers number**	**Degree of endangerment**	**Other countries[6]**
1	Quechua	QUECHUAN	ANDES	2,125,000[7]	1,540,833[8]	Potentially end.	PE, EC, CO, CH, AR
2	Aymara	AYMARAN	ANDES	1,470,000[7]	1,008,825[8]	Potentially end.	PE, CH, AR
3	Chipaya	URU-CHIPAYAN	ANDES	2,134	1,800	Endangered	
4a	Uchumataqu (Uru)			230	–	Extinct (2004)	
4b	Chholo			?	1?	Extinct	
5	Puquina	PUQUINAN	ANDES	–	–	Extinct	PE †
6	Kallawaya	MIXED	ANDES	–	?	Seriously end.	
7	Machineri	ARAWAKAN	AMAZONIA	30	13	Seriously end.	BR
8	Baure			886	67	Seriously end.	
	Moxo (Mojeño)		AMAZONIA/ ORIENTE				
9a	Trinitario			30,000	3,140	Endangered	
9b	Ignaciano			2,000	1,080	Seriously end.	
10	Paunaca		ORIENTE	?	5	Moribund	
11	Moré (Itene)	CHAPACURAN	AMAZONIA	64	44	Seriously end.	

	Language	Genetic classification	Location	Population	Speakers number	Degree of endangerment	Other countries[6]
12	Chácobo	PANO-TACANAN, PANOAN	AMAZONIA	516	380	Endangered	
13	Pacahuara			46	6	Moribund	
14	Yaminahua			93	51	Seriously end.	PE, BR
15	Ese Ejja	PANO-TACANAN, TACANAN	AMAZONIA	732	518	Endangered	PE
16	Araona			158	111	Seriously end.	
17	Cavineña			1,683	601	Endangered	
18	Tacana			7,345	1,153 / **50–500**	Seriously end.	
19	Maropa (Reyesano)	TUPÍAN, TUPÍ-GUARANÍAN	AMAZONIA/ ORIENTE	4,919	53 / **12**	Moribund	
20	Yuki			208	140	Seriously end.	
21	Sirionó			268	187	Endangered	
22	Guarayo		ORIENTE	11,953	8,433	Potentially end.	
23	Guaraní (Chiriguano)			125,159[7]	43,633[8]	Potentially end.	AR
24	Tapieté			41	29	Seriously end.	AR, PY
25	'Weenhayek (Mataco, Wichí in AR)	MATACOAN	ORIENTE	1,797	1,929	Endangered	AR
26	Ayoreo	ZAMUCOAN	ORIENTE	1,398	1,398	Endangered	PY
27	Canichana	ISOLATE	AMAZONIA	404	4 / **0?**	Extinct	
28	Movima	ISOLATE		12,230	1,173	Seriously end.	
29	Cayubaba	ISOLATE		664	23 / **<3**	Moribund	
30	Itonama	ISOLATE		2,791	389 / **<2**	Moribund	
31a	Mosetén	MOSETENAN	FOOTHILLS/ AMAZONIA	1,588	948	Endangered	
31b	Tsimane' (Chimane)			8,615	6,351	Potentially end.	
32	Leko	ISOLATE	FOOTHILLS/ AMAZONIA	4,186	132 / **20**	Moribund	
33	Yurakaré	ISOLATE	AMAZONIA/ ORIENTE	2,829	1,809	Endangered	
34	Besïro (Chiquitano)	MACRO-GÊ, CHIQUITANO[9]	ORIENTE	195,624	4,615	Seriously end.	BR

The Bolivian 2001 census presents some surprising differences with respect to the 1994 Rural Indigenous Census of the Lowlands.[10] The Leko ethnic group, for example, grew explosively from 9 persons in 1994 into a group of 4,186 in 2001. According to Molina and Albó (2006: 97), this is not due to an erroneous count in 1994, but to a type of ethnogenesis, similar to the one experienced by the Tacana ethnic group (Herrera 2005), and stimulated likewise by the 1996 INRA Law,[11] whose goal it was to reorganize land ownership in Bolivia within a period of ten years. The fact that the 2001 census registered 132 speakers of Leko may probably be ascribed to the same reason, since salvaging a language, even in a symbolic



Map 1. The Languages of Bolivia, © Cartographic design Willem Doelman 2009

manner, seems to be a fundamental condition for the territorial demand of some groups. The Dutch linguist Simon van de Kerke barely localized 20 Leko speakers in the mid 1990s. Likewise, the 2001 census registered 389 speakers of Itonama, while today no more than one elderly speaker remains. It is good to note at this point that there is a big discrepancy between *speaking a language* and *wishing to speak a language* and that, therefore, when analyzing census data, it is always necessary to reflect upon the distinct interpretations of what is understood by *speaking a language*.

Apart from the reservations mentioned about the number of speakers of certain languages given in the 2001 census, this census has a major advantage in that it at least makes a distinction between questions about auto-identification and questions about the spoken indigenous languages. When establishing the estimated number of speakers of each language in the past, the biggest problem usually was the continuous mix-up of the number of the ethnic group with the actual number of speakers. Yet another problem involved – and still involves for that matter – establishing the proper number for the ethnic groups. A striking example is provided by Itonama, for which the 1994 census gave a total of 5,090 for the ethnic group. This high number was due to the fact that anyone who is born in the town of Magdalena (capital of the province of Iténez) – or anywhere in the province of Iténez for that matter – is considered to be, or considers himself or herself to be Itonama. Since the majority of the population consists of whites, *mestizos* and *criollos* it is practically impossible to decide on the exact number of ethnic Itonama. The same problem occurs with the other ethnic groups mentioned in Table 3.

The numbers in Table 3 show the extremely precarious state of the Bolivian Amazonian languages, with the linguistic isolate Canichana probably already extinct, and with no less than five moribund languages. The degree of endangerment depends on many factors, such as the percentage of speakers, the mean age of the speakers, the number of children that learn the language as their mother tongue, the size of the ethnic group, etc. Thus, Yurakaré (Isolate), with 1,809 speakers, is classified as "endangered", because the speakers are in general over 25 years of age, while Movima (Isolate), with 1,173 speakers, is classified as "seriously endangered" due to the fact that all speakers are older than 50–60 years of age.[12] Moreover, the percentage of Movima speakers is much lower than the percentage of Yurakaré speakers. On the other hand, Ignaciano (Arawakan) is classified as "seriously endangered" with 1,080 speakers – or, in other words, 54 % of the population – out of an ethnic group of 2,000, while its sister language Trinitario is considered "endangered" with only 3,140 speakers (10.5 %) out of an ethnic group of 30,000. Apart from the fact that the percentage of Ignaciano speakers seems a bit on the high side, the speakers are generally older than the Trinitario speakers; moreover, the intents to salvage the language do not seem to be as organized as in the case of Trinitario. At this point I do not wish to enter in the discussion on the linguistic status of the different varieties of Moxo, or, in other words, whether we

have to do with various genetically related languages or with dialects of one and the same language. The distinction between language and dialect is often more socio-political than linguistic, as in the case of Ignaciano and Trinitario. Two other Moxo dialects, Javeriano and Loretano, and a dialect of the Baure language (Arawakan), Joaquiniano, are not included in Table 3 for this precise reason. All three dialects are probably extinct today.

Although the viability of the Tacanan Ese Ejja (Pano-Tacanan) is quite good, the language is classified as "endangered", because the ethnic group is relatively small – even though in this case one should also consider the state of this same language in Peru. Likewise, Araona, another Tacanan language basically spoken by the whole community, is classified as "seriously endangered", because the ethnic group is very small. Tsimane', finally, one of the varieties of the small linguistic family Mosetenan, is by far the most viable language spoken in the Beni department, and, therefore, appears as "potentially endangered".

A study performed in 2006 among students that attended schools located in the territories of five indigenous Amazonian groups (Cavineña, Mosetén, Movima, Tacana, and Tsimane'), showed that, in a random survey of little more than 2,000 students attending primary schools, 92.13 % declared they speak Spanish most of the time. The pupils who used their ancestral language most were the Tsimane'. Spanish is spoken by all the groups in percentages varying between minimally 74.6 % and maximally 99.8 %. Only in the case of Tsimane' it was established that the interviewed population, even in a bilingual context, manifested to use the ancestral language more than Spanish (Plaza 2006).

It is possible that, apart from the mentioned groups, there are still some uncontacted groups in the Bolivian Amazon, groups that have chosen to live in voluntary or forced isolation, thus avoiding contact with other indigenous groups and with Bolivian society. It is said that at the time of the Spanish conquest in the sixteenth century the Toromona, supposedly a Tacanan (Pano-Tacanan) group under the command of the mythical cacique Tarona, formed a highly effective barrier against the European incursion in the southern part of the Amazon. The genocide that took place during the rubber boom (1880–1914) deleted the uncontacted Toromona from the official records. Today it is still not clear whether the group perished during the rubber boom or retired to inaccessible parts of the rainforest. There are rumors about a mysterious group wandering through the forest south of the Araona territory in Puerto Araona (province of Iturralde, La Paz department). It remains a mystery whether this actually is the Toromona "ghost" group or another group. In addition, there are rumors about two other uncontacted Pano-Tacanan groups in the border region between Bolivia and Peru, namely Ese Ejja (Tacanan) and Nahua (Panoan).

According to the French anthropologist Mickaël Brohan, there are still uncontacted Araona (Tacanan) families in the Araona TCO,[13] a fact that has been confirmed by the Organization of the Mosetén Indigenous People[14] (Fischermann 2007: 255). Apart from the few Pacahuara (Panoan) living today in the community

of Tujuré, near the Chácobo (Panoan) of the Alto Ivón River, there still is an uncontacted Pacahuara group of about 50 persons in their homeland between the Negro and Pacahuara rivers, near the border with Brazil in the Pando department. There is also an uncontacted Yuki (Tupí-Guaranían) group of about four families in the area of the Usurinta River in the center of the Yuqui TCO, bordered by the rivers Chapare and Chimoré (Fischermann 2007: 55, quoting the French biologist David Jabin).

After the educational reform of 1994 – which includes an intercultural approach and bilingual modality in education, in response to the socio-cultural heterogeneity of the country – educational activities of the State and NGOs were first focused on the Andean Quechua and Aymara, and the Chaco Guaraní group. The fact that there was so little attention to the educational needs in the Bolivian Amazon is the reason why the Intercultural Bilingual Education Program for Amazonia[15] has directed its activities entirely at this region since 2006. Before, however, between 1996 and 2006, the Ministry of Ethnic Affairs, in coordination with the Ministry of Education – both then members of the larger Ministry of Human Development – and financial support from the Danish Cooperation, initiated a program of activities in the lowlands aimed at laying the foundations for intercultural bilingual education (IBE). This included the design of standardized alphabets, the establishment of teachers colleges, and the development of reading materials in up to 10 different languages. From the year 2001 onwards, already under the name of Amazonian Program of Intercultural Bilingual Education,[16] the Ministry of Education prompted work in four areas: intercultural bilingual education (IBE) in the classroom, teacher training, popular participation and language revitalization, in close coordination with the indigenous organizations in the region. The program claims to have worked in 300 schools, with 1,900 teachers and 27,500 students from 14 different groups (Zavala *et al.* 2007: 41–42), of which 10 are located in the Bolivian Amazon. In cooperation with PROEIB Andes and the Unit of Intercultural Bilingual Education[17] of the Ministry of Education and Culture, the EIBAMAZ now conducts anthropological and sociolinguistic research to design curricular proposals for each group and trains teachers in different themes with the intention of reaching some 2,000 teachers working in the territories of the Araona, Cavineña, Tacana, Mosetén, Tsimane', and Movima groups. EIBAMAZ is a program of the Finnish Cooperation, implemented by UNICEF, which focuses on research concerning intercultural bilingual education, with emphasis on curricular design, teacher training in the subject of Interculturality and production of texts in indigenous languages (Plaza 2006). Similarly, in the same year 2006, the department of Modern Languages and Spanish Philology of the Autonomous University "Gabriel René Moreno" in Santa Cruz initiated a linguistic training program for indigenous teachers who are speakers of the languages of the Bolivian lowlands (Zavala *et al.* 2007). The first objective of the program is to train teachers to be able to interact in and cope with intercultural bilingual education processes. The program is executed

in common agreement with the Confederation of Indigenous Peoples of the Bolivian Orient.[18] Meanwhile the first four courses have taken place, involving indigenous teachers of the Moxo-Trinitario, Moxo-Ignaciano, Chácobo, Cavineña, Tacana, Mosetén, Tsimane', and Movima groups.

The 1994 reform of the Bolivian Constitution first recognized the multiethnic and multicultural character of the country, as well as various indigenous collective rights. In September 2000, all indigenous languages were recognized as official languages, and their use promoted in the educational system. In Article 5 of the Constitution of November 2007 all Bolivian indigenous languages except the Moxo dialects Javeriano and Loretano and the Baure dialect Joaquiniano are recognized – together with Spanish – as official languages of the State.

3. Other countries

This section lists the languages of Argentina, Brazil, Chile, Colombia, Ecuador, French Guiana, Guyana, Paraguay, Suriname, and Venezuela, respectively. For the exact location of the languages discussed in the following, the speaker is referred to Crevels (2007) and Sichra (2009).

3.1. Argentina[19]

The number of Indians in Argentina today is 600,300 (1.5 % of the total population). It is estimated that before the arrival of the Spaniards some 35 languages were spoken in what nowadays forms the Argentinean territory (Martínez Sarasola 1992). Today 15 native languages, pertaining to 7 linguistic families, are still spoken in Argentina. Two of these languages, which at the same time are the last members of the linguistic family they belong to, are moribund: Vilela (Lule-Vilelan) with two rememberers and Tehuelche (Chonan) with three elderly speakers.

Mapudungun (**Araucanian**) is spoken by the Mapuche in the south and southwest of Argentina and the South of Chile. According to Fernández Garay (2009: 57), there are practically no monolingual speakers of the language left; today all use Spanish in varying degrees of competence, while at the same time a strong decline in intergenerational transfer has taken place.

The **Chonan** family used to consist of six languages that were spoken in Patagonia and on the Isla Grande of Tierra del Fuego. Today only three Tehuelche speakers remain, while the other languages have become extinct.

The Southern Chaco harbors languages of the **Guaicuruan**, **Matacoan**, and **Lule-Vilelan** families. The Guaicuruan family consists of the four languages Mocoví, Pilagá, Toba and Kadiweu, of which the first three are spoken in Argentina (as also formerly now extinct Abipón)and the fourth, Kadiweu, in Brazil. Number of speakers is relatively high, even though Spanish is encroaching rapidly in urban

areas. The same applies to the Matacoan languages Chorote, Nivaclé, and Wichí, which still have a relatively high number of monolinguals. Although Nivaclé is very vital in Paraguay, in Argentina the language is seriously endangered due to the small size of the group and its number of speakers, which is not higher than 40 % of the total ethnic population.[20] By the second half of the twentieth century Vilela speakers had shifted to Toba, Mocoví, and Spanish, and, therefore, it was considered extinct or nearly extinct. Nowadays, only two rememberers of Vilela remain alive.

Apart from Paraguayan Guaraní, which is spoken by Paraguayan immigrants, four other **Tupí-Guaranían** languages are spoken in Argentina: Ava Guaraní and Tapieté in the Southern Chaco, Mbyá in the province of Misiones, and Guaraní Correntino in the province of Corrientes. The 2004–2005 Complementary Survey of Indigenous Peoples,[21] however, distinguishes between Ava Guaraní, Mbyá, Tapieté, Chané (an originally Arawakan group that assimilated with the Ava Guaraní), Guaraní, and Tupí Guaraní. Since there is no clear description of what is understood by "Guaraní" and "Tupí Guaraní", population and number of speakers remain tentative. In the 2004–2005 Survey 22,059 Guaraní and 16,365 so-called Tupí Guaraní were registered. It is not clear which language is spoken by these two groups, but it might be Guaraní Correntino, a variety of Guaraní mainly spoken in Corrientes, but also in the provinces of Misiones, Chaco, Formosa, Rosario and Buenos Aires. This variety is closely related to Paraguayan Guaraní and mainly spoken in a colloquial setting, which impedes an exact estimate of its number of speakers (estimates between 100,000 to 1,000,000). Its variety Guaraní Goyano has a very high percentage of Spanish loans.

Quechua is spoken by three different groups in Argentina: 1) *criollos* (descendants of Europeans) in Santiago del Estero; 2) *collas* in the northwest of Argentina (label for approximately 170,000–180,000 descendants of various indigenous mainly non-Quechua groups, among which there are fewer than 10,000 Quechua speakers); and 3) Bolivian and Peruvian immigrants that settled in the last decade especially in and around Buenos Aires. Since little is known about the second group and the third group speaks an immigrant language, only Santiagueño Quechua is taken into account in this overview. Today Santiagueño Quechua is still quite viable with approximately 60,000–80,000 speakers, which may be due to the fact that the language has never been conceived of as an Indian language in Santiago del Estero, but rather as a *criollo* tongue spoken by people born in the region but not necessarily of Indian ancestry (see Stark 1985: 745; Bravo 1965: 98). The 2004–2005 ECPI registered 4,104 **Aymara** in the northwest of Argentina (mainly province of Salta), but the speaker number remains unclear.

Finally, the isolate **Yahgan** became extinct in Argentina in the late 1900s. Yahgan used to be spoken on the Chilean islands south of the Isla Grande of Tierra del Fuego. There is still one elderly female speaker of Yahgan in Chile.

Table 4. Indigenous languages of Argentina

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Mapudungun (Mapuche)	ARAUCANIAN	113,680	8,413	Seriously endangered	CL
Aymara	AYMARAN	4, 104	?	Endangered	CH, BO, PE
Gününa Yajich (Gününa Küne, Pampa)	CHONAN	1,585	–	Extinct (1960–1970)	
Selk'nam (Ona)		696	–	Extinct (1970s)	CL †
Tehuelche (Aonek'enk, P'e:nk'enk)		10,590	3	Moribund	
Teushen (Tehuesh)		–	–	Extinct (early 1900s)	
Mocoví (Moqoyt La'qa:tqa)	GUAICURUAN	15,837	2,780	Endangered	
Pilagá (PitelaGa Laqtak)		4,465	3,494	Potentially endangered	
Toba (Namqom)		69,452	30,410	Endangered	PY
Vilela	LULE-VILELAN	50	2	Moribund	
Chorote (Yofuáha, Yowúwa)	MATACOAN	2,613	1,692	Endangered	PY
Nivaclé (Nivaklé, Chulupí, Ashluslay)		553	224	Seriously endangered	PY
Wichí (Mataco, 'Weenhayek in BO)		40,036	28,631	Potentially endangered	BO
Santiagueño Quechua	QUECHUAN	–	60,000–80,000	Endangered	
Ava Guaraní (Guaraní in BO, Guaraní Occidental in PY)	TUPÍAN, TUPÍ-GUARANÍAN	21,807	5,139	Endangered	BO
Guaraní Correntino (Guaraní Goyano)		–	100,000–1,000,000	Potentially endangered	
Mbyá		8,223	3,908	Endangered	PY, BR
Tapieté (Ñandevá in PY)		524	178	Seriously endangered	BO, PY
Kunza (Atacameño, Likan Antai, Ulipe, Lipe)	ISOLATE	3,044	–	Extinct	CL †
Yahgan (Yámana)	ISOLATE	–	–	Extinct (late 1900s)	CL

The indigenous peoples of Argentina did not receive legal status until 1983. In 1984, a special law[22] was passed to restore traditional indigenous lands and territories and to provide bilingual education in indigenous communities. This law has not been adequately implemented and it has been heavily criticized, since no Indians have been included on advisory committees for these programs. Even though Argentina currently recognizes indigenous lands, culture, and community development through its indigenist policy, the funding, support and enforcement for this policy has been reported to be very low.

Spanish is the official language of Argentina and until today Guaraní Correntino is the only indigenous language that since 2004 has the status of "official alternative language" in the province of Corrientes. Officially the indigenous languages of Argentina are languages of education (López 2009: 81).

3.2. Brazil[23]

Estimates of Brazil's indigenous population in 1500, at the time of the first contact with Europeans, vary between 1 and 5 million (Salzano and Callegari-Jacques 1988), distributed over approximately 1,175 groups or tribes (Rodrigues 1993). Nevertheless, these figures remain tentative due to unreliable historical data. Today only 358,000 Indians (0.2 % of the total population) remain distributed over 215 ethnic groups that speak about 180 different languages (FUNAI 2005). Even though language density is very high, most of the Brazilian indigenous languages are spoken by very small groups. With very few exceptions, most of these indigenous groups live in the Amazonian and central regions of the country, in the states of Amazonas, Roraima, Acre, Rondônia, Tocantins, Pará, Amapá, Maranhão, Goiás, Mato Grosso, and Mato Grosso do Sul. They live in small communities, missions, national parks (four in Brazil), and government-designated reserves. The majority of the groups live in rural areas or in the rainforest and consist of semi-nomadic, agricultural laborers, or hunter-gatherers. Many groups deep into the Amazon lived in isolation from non-indigenous people until the development of the timber and gold industries in the late 1970s. The few Indians that remain in the eastern part of the country have almost all switched to Portuguese (Adelaar 1991: 58).

In addition to the officially identified indigenous population, there have been 55 spottings of isolated (often called "uncontacted") indigenous groups in Brazil. In 1987, the FUNAI[24] created a special unit designed to locate and protect these isolated groups. This special unit consists of seven teams, called Contact Fronts,[25] operating in the states of Acre, Amazonas, Pará, Rondônia, Mato Grosso and Goiás.

As shown in Table 5, the extant indigenous languages of Brasil represent 15 language families and 6 isolates. The **Tupían** family consists of 10 branches, most of which are concentrated in the federal state of Rondônia. **Tupí-Guaranían** is the largest and most widespread branch. The original habitat of the Asuriní do Tocantins was located on the Xingu River, where they lived with the Parakanã. Conflicts with other indigenous groups caused the Asuriní to leave the Xingu region at the beginning of the twentieth century, moving to the east and settling on the headwaters of the Pacajá River and later on the Trocará River banks in the state of Pará, where they still live. The language of the Asuriní do Tocantins is closely related to both Parakanã and Suruí do Tocantins and lately these three languages have been considered to be dialects of the same language Akwawa. Today practically all adult Asuriní are fluent in Portuguese, while youngsters and children almost exclusively use Portuguese. In addition to the Ava-Canoeiro groups of the Tocantins and Araguaia river areas, which were first contacted after the 1970s, two Avá-Canoeiro subgroups remain uncontacted in the states of Goiás and Tocantins. Today the language is seriously endangered with an estimated total of 40 members in the ethnic group, including the uncontacted subgroups. In the state of Maranhão the Guajá are one of the last hunter-gatherer groups in Brazil. In addition to those Guajá that

were contacted and settled by the FUNAI in the 1970s and 1980s there still are a few uncontacted Guajá groups, which amount to approximately 30 persons. Currently there are about 283 Guajá living in four settlements in the reserves. All Guajá speak their native language, which is to be considered endangered.

Macro-Gê is a large stock with 11 branches, of which Gêan is the largest family. Macro-Gê languages are spoken in almost the whole of Brazil except for the east and northeast, where many members of the stock already became extinct in the past. Recent research has led to the belief that the small Jabutían family in Rondônia (Ribeiro and van der Voort 2010) and Chiquitano (Adelaar 2008), which is spoken in Mato Grosso and Bolivia and was thought to be an isolate until very recently, should also be included in the Macro-Gê stock.

Of the large **Arawakan** family, 18 languages are spoken in Brazil, mainly found in the west, but also in the south and northeast of Brazil. Four of the languages are moribund.

Cariban languages are spoken to the north of the Amazon and more to the south in the state of Mato Grosso. With 19 languages spoken in Brazil, the Cariban family is also quite extensive there. In the northern state of Pará, the Aparaí have been living together in the same villages and intermarrying with the Wayana for at least a century. Because of the high incidence of intermarriage, the Aparaí and Wayana have been registered as a single group of 288 members (2006). It is not known how many speakers of Aparaí are left in this group (there are a few more families in French Guiana).

The **Nambikwaran** family consists of three main groups: Northern Nambikwara, Southern Nambikwara, and Sabanê. Northern Nambikwara and Southern Nambikwara are collective names for groups of languages that are mutually intelligible within the two individual groups. Sabanê is represented by a single language, which is very different from all other Nambikwaran languages. Although first contacts already occurred in the eighteenth century, the first large-scale contact with the outside world was with the Rondon expedition of 1911. The total number of Nambikwara speakers is slightly higher than 1,200, which would classify the language family as endangered. Nevertheless, it should be kept in mind that this is the number for all Nambikwaran languages, of which most are seriously endangered.

Other well represented families in Brazil include **Pano-Tacanan** (Panoan branch) and **Tucanoan**, with 14 and 11 languages extant, respectively. The language of the isolated Panoan Maya group on the upper course of the Quixito River does not seem to be mutually intelligible with Matsés and is distinct from Marubo.

Smaller families include **Arawan** (7), **Chapacuran** (5), **Nadahup**[26] (5), **Harakmbut-Katukinan** (4), **Yanomaman** (4), **Witotoan** (including Boran) (2), **Guaicuruan** (1), **Muran** (1), and **Zamucoan** (1).

Furthermore, the following six isolates are still spoken in Brazil: **Aikanã**, **Kanoê** and **Kwaza** in Rondônia, **Iranxe/Myky** in western Mato Grosso, **Trumai** in the Xingu Park (Mato Grosso), and **Ticuna** in Amazonas.

At the end of Table 5 I have listed 18 unclassified languages, of which only the languages spoken by the uncontacted "Isolados do Massaco" (Rondônia) and the uncontacted individual "Isolado do Tanarú" (Rondônia), and possibly Máku (Roraima) are still extant. Since the Isolados do Massaco use long bows, like the Sirionó in Bolivia, they have been considered to be Tupí-Guaranían in the past, but basically nothing is known about them. The Isolado do Tanarú is the last survivor a group that was probably exterminated by diseases caused by ranchers, loggers and colonists. In the last decades Rondônia has been invaded by people destroying the forest, appropriating indigenous peoples' land, and even killing them. The Máku language, spoken along the Uraricoera River in the Brazilian-Venezuelan border area, should not be confused with the Nadahup (or Makúan) languages.

For further sociolinguistic information on the languages of Brazil, see the excellent website of the Instituto Socioambiental (ISA) in São Paulo.

As a reaction to a period of military dictatorship a new and democratic Brazilian Constitution was promulgated in 1988, recognizing "the unique social organization, customs, traditions, languages, and beliefs" of indigenous peoples (Article 231). On the basis of their physical and cultural survival, production needs and environmental preservation, the indigenous groups were granted land rights. Since private ownership of Indian lands is forbidden under Brazilian law, the land is owned by the State under the condition that it can only be used according to indigenous traditions. Although the new Constitution granted the indigenous groups rights to an equal say about the use of natural resources encountered on their lands, it is a known fact that indigenous rights and indigenous lands are often violated precisely because of these natural resources. The new Constitution also guarantees native language education, but does not specify how this provision should be implemented.

Portuguese is the official language of Brazil and spoken by almost all of the population. In 2003, however, the municipality of São Gabriel da Cachoeira became the first municipality in Brazil to grant the following three indigenous languages co-official status with Portuguese: Nheengatu, Tukano, and Baniwa. The indigenous languages of Brazil are officially languages of education.

The IBGE (Instituto Brasileiro de Geografia e Estatística) conducted the 2010 Demographic Brazilian Census, in which for the first time questions were included about the language(s) spoken by indigenous residents in the national territory. In addition to providing a diagnosis of the linguistic diversity in the country, the mapping of indigenous languages will facilitate the proper implementation of public policies geared to the recognition, preservation and promotion of these languages.

Table 5. Indigenous languages of Brazil[27]

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Banawá Yafí (Banawá)	ARAWAN	100 (2006)	100	Seriously endangered	
Deni		875 (2006)	875	Endangered	
Jamamadí (Yamamadí, Kanamantí)		884 (2006)	800	Endangered	
Jarawara (Jarauara)		180 (2006)	180	Endangered	
Kulina (Culina, Madihá, Madiha, Madija)		3,500 (2006)	3,000	Endangered	PE
Paumari (Palmari)		892 (2006)	290 (2000)	Seriously endangered	
Zuruahã (Sorowaha, Suruwaha)		136 (2007)	136	Seriously endangered	
Apurinã (Popingaré, Kangitê, Kaxiriri, Cacharary)	ARAWAKAN	3,256 (2006)	2,000	Endangered	
Asháninka (Kampa, Axíninka)		869 (2004)	813	Endangered	PE
Baniwa (Baniwa do Içana, Baniva, Baniua, Walimanai, Wakuenai)		5,811 (2005)	5,811	Potentially endangered	CO, VE
Baré		10,275 (2005)	2	Moribund	VE
Enawê-Nawê (Salumã)		445 (2006)	445	Endangered	
Kaixana (Caixana)		505 (2006)	1	Moribund	
Kinikinau (Guaná)		250 (2005)	11 (2007)	Moribund	
Kuripako (Curripaco, Curipaco, Coripaco)		1,332 (2005)	1,332	Endangered	CO, VE
Machineri (Manchineri, Yine)		937 (2004)	937	Endangered	BO
Mehinako (Mehinaku, Meinaku)		227 (2006)	200	Seriously endangered	
Palikur (Paliku'ene, Aukwayene, Aukuyene)		1,330 (2006)	1,300	Endangered	GF
Parecí (Paresí, Aritĺ, Halitĺ)		2,005 (2008)	1,000	Endangered	
Tariana (Tariano)		1,914 (2002)	100	Seriously endangered	CO
Terêna (Terena, Tereno)		19,961	19,000	Potentially endangered	
Wapixana (Wapishana, Wapisiana, Uapixana, Vapidiana)		7,000 (2008)	4,000?	Endangered	GY
Warekena (Werekena, Uarequena)		806 (206)	20	Seriously endangered	VE
Waurá (Waujá, Uará)		321 (2008)	321	Endangered	
Yawalapití (Iaualapití)		222 (2006)	10?	Moribund	
Bakairí (Bacairí, Kurâ)	CARIBAN	950 (1999)	950	Endangered	
Galibí (Galibí do Oiapoque, Kari'na, Kaliña)		66	only elders	Seriously endangered	VE, GF, SU, GY
Hixkaryana (Hyxkaryana)		631 (2006)	600	Endangered	
Ikpeng (Txicão, Txikão)		342 (2006)	342	Endangered	

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Ingarikó (Akawayo, Kapon)		1,170 (2007)	1,170	Endangered	GY, VE
Kalapalo (Calapalu)		506 (2006)	506	Endangered	
Katxuyana-Xikuyana (Kaxuyana-Xikuyana, Kaxuyana, Caxuiana)		230 (2006)	150	Seriously endangered	
Kuikuro (Cuicuro)		509 (2006)	600	Endangered	
Makuxí (Macuxi, Macushi, Pemon)		23,433 (2006)	15,000	Potentially endangered	VE
Matipú		103 (2006)	10	Moribund	
Nahukwá (Nahukuá, Nafuquá)		124 (2006)	124	Seriously endangered	
Naruvoto		78 (2003)	?	Seriously endangered	
Patamona (Kapon, Akawayo)		87 (2006)	?	Seriously endangered	GY, VE
Taurepang (Taulipang, Pemon, Arekuna)		582 (2002)	500	Seriously endangered	GY, VE
Tiriyó (Trio, Tarëno, Tirió, Tirio, Tarona, Yawi, Pianokoto)		1,156 (2006)	1,156	Endangered	SU
Waimirí-Atroarí (Kinã, Kinja)		1,120 (2005)	1,120	Endangered	
Waiwai (Wai Wai, Tunayana-Waiwai, Katuena)		2,914[28] (2005)	2,914	Potentially endangered	GY
Wayana (Waiana, Uaiana, Aparaí)		288 (2006)	288	Endangered	SU, GF
Yekuana (Ye'kuana, Yekwana, Yecuana, Makiritare, Maquiritare, Maiongong, So'to)		430 (2000)	430	Endangered	VE
Kuyubim (Kujubí, Cojubím, Kaw Ta Yo)	CHAPACURAN	55 (2006)	2 (2001)	Moribund	
Miguelenho (Uomo)		50	1	Moribund	
Moré		30 (2002)	12 (2002)	Seriously endangered	BO
Oro Win (Oro Towati)		56 (2006)	5	Moribund	
Torá		312 (2006)	–	Extinct	
Wari' (Pakaa Nova, Pacaás Novos)		2,721 (2006)	2,721	Potentially endangered	
Kadiweu (Kadiweo, Caduveo, Cadiuéu, Ejiwajigi, Mbaya-Guaicuru)	GUAICURUAN	1,629 (2006)	1,600	Endangered	
Kanamarí (Canamarí, Tüküná, Tâkâna)	HARAKMBUT-KATUKINAN	1,654 (2006)	most?	Endangered	
Katawixí (Catawixi, Catauixi, Catawishi)		10? (1986)	10?	Seriously endangered	
Katukina do Biá (Pedá Djapá, Tüküná)		450 (2007)	1 (1976)	Possibly extinct	
Tsohom Djapá (Tucano)		100 (1985)	30?	Seriously endangered	

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Bororo (Eastern Bororo, Boe, Boe Wadáru)	MACRO-GÊ, BORORO	1,390 (2006)	1,390	Endangered	
Umutina (Omotina, Barbados)		445 (2009)	–	Extinct	
Chiquitano (Linguará, Anenho)	MACRO-GÊ, CHIQUITANO	737 (2006)	50	Seriously endangered	BO
Guató	MACRO-GÊ, GUATÓ	370 (2006)	5	Moribund	
Apinajé (Apinayé, Apinaié, Timbira Ocidentais)	MACRO-GÊ, GÊAN	1,525 (2006)	1,500	Endangered	
Canela (Kanela, Kanela Ramkokamekrá, Kanela Apanyekra)		2,502 (2006)	2,502	Endangered	
Gavião Perkatêjê (Gavião, Parkatêjê, Gavião do Pará, Gavião do Mãe Maria)		476 (2006)	476	Endangered	
Gavião Pukobiê (Pykopjê, Gavião do Maranhão, Timbira)		494 (2006)	494	Endangered	
Kaingang (Caingangue, Kanhgág)		28,000 (2006)	18,500	Potentially endangered	
Krahô (Craô, Kraô, Mehim, Timbira)		2,184 (2006)	2,184	Endangered	
Kren-Yê		30 (1999)	1 (1981)	Extinct	
Krikatí (Krinkatí, Krikatí-Timbira, Timbira)		682 (2005)	682	Endangered	
Mebêngokrê (Kayapó, Xikrin, Put Karot)		7,266 (2006)	7,266	Potentially endangered	
Panará (Krenhakarore, Krenakore, Krenakarore, Kreen-Akarore, Índios Gigantes)		374 (2008)	374	Endangered	
Kisêdjê (Suyá, Suiá, Mẽkisêdjê)		351 (2006)	351	Endangered	
Tapayuna (Suyá Orientais, Novos Suyá, Beiço-de-Pau)		58 (1995)	58?	Seriously endangered	
Xakriabá (Xacriabá, Xikriabá)		7,665 (2006)	0?	Possibly extinct	
Xavante (A'uwe, Awen)		13,303 (2007)	13,303	Potentially endangered	
Xerente (Akwê, Akwen, Acuen)		2,569 (2006)	2,569	Potentially endangered	
Xokleng (Shokleng, Xokrén, Laklanô, Bugres, Botocudos, Aweikoma, Kaingang de Santa Catarina, Aweikoma-Kaingang)		887 (2004)	100	Seriously endangered	
Arikapú (Aricapú)	MACRO-GÊ, JABUTÍ	30 (2006)	1	Moribund	
Djeoromitxí (Jeoromitxí, Jabutí)		165 (2006)	30 (2008)	Seriously endangered	

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Yatê (Iatê, Fulniô, Carnijó)	MACRO-GÊ, YATÊ	2,930 (1999)	1,000	Endangered	
Javaé (Karajá)	MACRO-GÊ, KARAJÁ	1,208 (2006)	800?	Endangered	
Karajá (Carajá, Iny)		2,532 (2006)	2,250	Endangered	
Xambioá (Karajá do Norte, Ixybiowa, Iraru Mahãdu)		269 (2006)	10	Moribund	
Krenak (Crenaque, Crenac, Krenac, Nakrehé, Krenak-Nakrehé, Borun), Botocudos, Aimorés	MACRO-GÊ, KRENAKAN	204 (2006)	10	Moribund	
Maxakalí (Maxacalí, Monacó, Kumanuxú, Tikmuún)	MACRO-GÊ, MAXAKALÍ	1,271 (2006)	1,271	Endangered	
Pataxó (Pataxó do Norte, Pataxó do Sur, Hã Hã Hãe)		2,219 (2005)	–	Extinct (late 1900s)	
Ofayé (Ofaié, Opayé, Ofayé-Xavante)	MACRO-GÊ, OFAYÉ	61 (2006)	12	Seriously endangered	
Rikbaktsá (Erikbaktsá, Erigpaktsá, Orelhas de Pau, Canoeiros)	MACRO-GÊ, RIKBAKTSÁ	1,117 (2006)	900	Endangered	
Mura	MURAN	9,299 (2006)	–	Extinct	
Pirahã (Mura-Pirahã)		389 (2006)	389	Endangered	
Dâw (Kamã)	NADAHUP	120	120	Seriously endangered	
Hup (Hupdá, Hupdé, Hupdá Makú)		1,500	1,500	Endangered	CO
Kuyabi (Kuyawi)		20	20	Seriously endangered	
Nadëb (Nadöbö, Anodöb, Makunadöbö, Guariba, Guariba-Tapuyo, Kabori, Xiriwai)		350	350	Endangered	
Yuhup		617	617	Endangered	CO
Northern Nambikwara (Nambikwara do Norte)	NAMBIKWARAN				
Latundê		19	19	Seriously endangered	
Lakondê		7	1	Seriously endangered	
Mamaindê		250	250	Endangered	
Negarotê		80	80	Seriously endangered	
Tawandê		few	1	Moribund	
Southern Nambikwara (Nambikwara do Sul)		721	721	Seriously endangered	
Sabanê		140	3	Moribund	

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Arara Shawãdawa (Arara do Acre, Shawanauá)	PANO-TACANAN, PANOAN	332 (2004)	9 (2000)	Moribund	
Katukina-Kanamari (Katukina [Tüküná, Pi:Dyapa], Kanamarí [Tüküna Kanamarí, Canamari], Tsohom-Dyapa [Tsunhum-Djapá, Tyonhwak Dyapa], Katukina do Acre, Katukina Pano)		2,239 (2008)	2,239	Potentially endangered	
Kaxararí (Caxarari, Kaxariri)		322 (2009)	300?	Seriously endangered	
Kaxinawá (Caxinauá, Cashinahuá, Cashinahua, Hantxa Kuin, Huni Kuin)		4,500 (2004)	4,500	Potentially endangered	PE
Korubo		26 (2007)	26	Seriously endangered	
Kulina do Acre (Kulina Pano, Culina)		125 (2006)	only elders	Seriously endangered	
Marubo		1,252 (2006)	1,252	Endangered	
Matís		322 (2008)	322	Endangered	
Matsés		1,592 (2006)	1,500	Endangered	PE
Maya (Quixito)		400	400	Endangered	PE?
Nukini (Nuquini, Nukuíni)		600 (2003)	–	Extinct	
Poyanawa (Poianáua)		403 (1999)	2	Moribund	
Shanenawá (Katukina Shanenawá)		361 (2006)	300	Endangered	
Yaminawa (Jaminawa, Iauminawa)		855 (2006)	600	Endangered	BO, PE
Yawanawá (Yauanauá, Iauanauá)		519 (2006)	519	Endangered	
Arapaso (Arapaço)	TUCANOAN	569	0?	Possibly extinct	
Bará (Waimajã, Waípinõmakã)		21 (2005)	21	Seriously endangered	CO
Barasana (Barasano, Pãnerã, Hanera, Panenoá)		34 (2005)	34	Seriously endangered	CO
Desano (Desana, Dessano, Wira, Umúkomasá)		2,204 (2005)	700	Endangered	CO
Karapanã (Carapanã, Muteamasa, Ukopinõpõna)		63 (2005)	63	Seriously endangered	CO
Kotiria (Wanano, Wanana, Guanano, Uanano)		735 (2005)	650	Endangered	CO
Kubeo (Cubeo, Cobewa, Kubéwa, Pamíwa)		381 (2005)	150–200	Seriously endangered	CO
Makuna (Macuna, Yeba-Masã)		32 (2005)	32	Seriously endangered	CO
Mirity-Tapuya (Miriti-Tapuia, Buia-Tapuya)		75 (2005)	0?	Possibly extinct	
Piratapuya (Piratapuia, Pira-Tapuia, Piratapuyo, Waíkana)		1,433 (2005)	700	Seriously endangered	CO

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Siriano (Siria-Masã)		71 (2005)	71?	Seriously endangered	CO
Tukano (Tucano, Ye'pãmasa, Dasea)		6,241 (2005)	7,000	Potentially endangered	CO
Tuyuka (Tuyuca, Tuiuca, Dokapuara, Utapinõmakãphõná)		825 (2005)	800?	Endangered	CO
Yurutí (Juritî)		?	0?	Possibly extinct	CO
Karitiana	TUPÍAN, ARIKEM	320 (2005)	320	Endangered	
Awetí (Aueti)	TUPÍAN, AWETÍ	160 (2008)	160	Seriously endangered	
Aruá	TUPÍAN, MONDE	36	12	Seriously endangered	
Cinta Larga		645	645	Endangered	
Gavião (Gavião de Rondônia, Ikõlej, Ikõleey, Ikõro)		523 (2004)	523	Endangered	
Zoró (Pageyn)[29]		599 (2008)	599	Endangered	
Paiter (Suruí-Paiter, Suruí de Rondônia)		1,007 (2006)	1007	Endangered	
Salamãi (Sanamãika, Mondé)		?	2	Moribund	
Kuruaya (Kuruaia, Curuaia)	TUPÍAN MUNDURUKÚ	129 (2006)	3	Moribund	
Mundurukú (Mundurucú)		10,065 (2002)	8,000	Endangered	
Puruborá	TUPÍAN, PURUBORÁ	62 (2006)	2	Moribund	
Karo (Arara, Arara Karo, Arara de Rondônia, Arara Tupi, Ntogapíd, Itoga-púk, Ramarama, Uruku, Urumi, Ytangá)	TUPÍAN, RAMARAMAN	208 (2006)	200	Seriously endangered	
Sateré-Mawé (Sataré-Maué, Sateré, Mawé)	TUPÍAN, SATERÉ-MAWÉ	9,156 (2008)	6,219	Endangered	
Ajurú (Wayurú, Wayoró)	TUPÍAN, TUPARÍAN	94 (2006)	8	Seriously endangered	
Akuntsú (Akunt'su, Akunsu)		5 (2009)	5	Moribund	
Makurap (Macurap)		381 (2006)	50	Seriously endangered	
Sakurabiat (Mekens, Mekém, Sakirabiat)		84 (2006)	22 (2008)	Seriously endangered	
Tuparí		433 (2006)	150 (2005)	Seriously endangered	
Amanayé (Amanaié, Ararandeuara)	TUPÍAN, TUPÍ-GUARANÍAN	192 (2001)	0?	Possibly extinct	
Anambé		132 (2000)	6 (2000)	Moribund	
Apiaká (Apiacá)		1,000 (2009)	1 (2008)	Moribund	
Araweté (Araueté)		339 (2006)	339	Endangered	

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Akwawa Asuriní do Tocantins Parakanã (Apiterewa) Suruí do Tocantins		1,548 384 (2006) 900 (2004) 264 (2006)	1,548 384 900 264	Endangered	
Asuriní do Xingu (Awaeté)		125 (2006)	125	Seriously endangered	
Avá-Canoeiro (Canoeiro, Carijó, Índios Negros, Cara Preta)		16	16?	Seriously endangered	
Diahoi (Jiahui, Jahói, Djahui, Diahkoi, Diarroi)		88	1	Moribund	
Guajá (Awá, Avá)		283 (2005)	283	Endangered	
Guajajara (Tenetehára, Ze'egete)		19,471 (2006)	14,000	Potentially endangered	
Juma (Yuma)		5	5	Moribund	
Ka'apor (Urubu-Kaapor, Kaaporté)		991 (2006)	991	Endangered	
Kayabí (Kaiabí, Caiabí)		1,619 (2006)	1,000	Endangered	
Kaiowa (Kaiova, Paï-Tavyterã)		20,000 (2003)	most?	Endangered	PY
Kamaiurá (Camaiurá)		492 (2006)	400 (2008)	Endangered	
Karipuna		14 (2004)	10	Moribund	
Kokama (Kocama, Cocama)		9,000 (2003)	5 (1993)	Moribund	PE, CO
Mbyá		6,000 (2003)	6,000	Potentially endangered	AR, PY
Ñandeva (Ava-Guaraní or Chiripá in PY)		13,000 (2008)	13,000	Potentially endangered	PY
Nheengatu (Yeral, Língua Geral, Língua Geral Amazônica)		–	3,000 (1977)	Endangered	VE
Omagua (Kambeba, Kambewa, Cambeba)		347	few?	Moribund	PE
Parintintin (Kagwahiwa)		284 (2006)	10	Moribund	
Tapirapé (Tapi'irape)		564 (2006)	564	Endangered	
Tembé (Timbé, Tenetehára, Turiwara)		1,425 (2006)	60	Seriously endangered	
Tenharim (Kagwahiwa)		699 (2006)	350	Seriously endangered	
Tupinamba (Coastal Tupi)		2,590 (2006)	–	Extinct	
Uru-Eu-Wau-Wau (Amondawa, Jupaú, Kawahíb)		183 (2006)	183	Seriously endangered	
Wajãpi (Wayãpy, Waiãpi, Guaiapi, Wayampi, Oyampi)		905 (2008)	905	Endangered	GF
Xetá (Hetá)		86 (2006)	8	Moribund	
Zo'é (Poturu, Jo'é)		177 (2003)	177	Seriously endangered	
Xipaya (Xipaia, Shipaya)		595 (2002)	2 (2003)	Moribund	

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Yudjá (Yuruna, Juruna, Jurûna)	TUPÍAN, YURUNA	362 (2006)	300?	Seriously endangered	
Witoto (Huitoto, Uitoto)	WITOTOAN, WITOTOAN PROPER	42	?	Possibly extinct (in BR)	PE, CO
Miranha (Mirãnha, Miraña)	WITOTOAN, BORAN	836 (2006)	–	Extinct	CO
Sánuma (Sanïma, Sánïma, Sánema)	YANOMAMAN[30]	462 (2006)	462	Endangered	VE
Yanam (Ninam, Xirianá)		466 (2006)	466	Seriously endangered	VE
Yanomam (Yanomae)		4,000 (2006)	4,000	Potentially endangered	VE
Yanomami (Yanomamï, Yanomamõ, Yanomama, Yanoama)		6,000 (2006)	6,000	Potentially endangered	VE
Chamacoco (Ishir)	ZAMUCOAN	1,572 (2002)	1,572	Endangered	PY
Aikanã (Aikaná, Masaká, Kasupá, Huarí, Mondé, Tubarão)	ISOLATE	200	150	Seriously endangered	
Atikum (Aticum, Wamoé)	ISOLATE	5,852 (1999)	–	Extinct (1960s)	
Iranxe (Irantxe, Manoki)	ISOLATE	276 (2006)	10	Seriously endangered	
Myky (Menky, Munku)		80 (2000)	80?		
Kanoê (Canoé, Kapixaná)	ISOLATE	95 (2002)	3	Moribund	
Kwazá (Koaiá, Coaiá, Quaia)	ISOLATE	40 (2008)	25	Seriously endangered	
Ticuna (Tikuna, Tukuna, Magüa)	ISOLATE	35,000 (2008)	35,000	Potentially endangered	CO, PE
Trumai	ISOLATE	147 (2006)	51 (2007)	Seriously endangered	
Tuxá	ISOLATE	3,927	2 (1961)	Extinct (1960s)	
Arara do Aripuanã (Arara do Beiradão, Arara do Rio Branco)	UNCLASSIFIED	209 (2005)	–	Extinct	
Isolados do Massaco	UNCLASSIFIED	100?	100?	Seriously endangered	
Isolado do Tanarú	UNCLASSIFIED	1	1	Moribund	
Kambiwá (Cambiuá)	UNCLASSIFIED	2,820	2 (1961)	Extinct	
Kantaruré	UNCLASSIFIED	493 (2006)	–	Extinct	
Kapinawá (Capinauá)	UNCLASSIFIED	3, 294	–	Extinct	
Kariri (Cariri, Kipea, Kiriri, Dzubukuá)[31]	UNCLASSIFIED	?	–	Extinct	
Tumbalalá		1,469 (2006)	–		
Kiriri (Katembri, Kariri, Kariri de Mirandela)[30]	UNCLASSIFIED	1,612	1 (1960s)	Extinct	
Máku (Macu, Mako)	UNCLASSIFIED	?	–	Possibly extinct (2000–2002)	
Pankararu (Pancararu, Pankararé)	UNCLASSIFIED	6,515	-	Extinxt	

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Potiguara (Potyguara)	UNCLASSIFIED	11,424	-	Extinct	
Tapeba (Tapebano, Perna-de-Pau)	UNCLASSIFIED	5, 741 (2006)	–	Extinct	
Tingui-Botó	UNCLASSIFIED	302	–	Extinct	
Tremembé	UNCLASSIFIED	2,049 (2006)	–	Extinct	
Truká	UNCLASSIFIED	4,169 (2006)	–	Extinct	
Wassú	UNCLASSIFIED	1,560 (2003)	–	Extinct	
Xokó Xokó (Chocó) Kariri-Xocó Xukuru-Kariri	UNCLASSIFIED	 364 (2006) 1,763 (2000) 2,652 (2006)	–	Extinct	
Xukuru	UNCLASSIFIED	9,064 (2006)	–	Extinct (early 1960s)	

3.3. Chile[32]

In the 1992 Chilean census, 10.5 % of the total population surveyed declared themselves indigenous, irrespective of whether they currently practiced a native culture or spoke a native language. Almost one million people (9.7 % of the total population) declared themselves Mapuche, and 0.6 % declared to be Aymara. The 2002 census, however, only surveyed indigenous people that still practiced a native culture or spoke an indigenous language. Of the 692,192 persons (4.6 % of the total population) that answered that description 87.3 % declared themselves Mapuche in 2002.

Basically only three indigenous (highland) languages, belonging to three different families, are still spoken in Chile: Mapudungun, Aymara and Quechua. While the Chonan family and the isolate Kunza have become extinct, the isolates Yahgan and Kawésqar are on the brink of extinction.

The **Araucanian** family consists of Mapuche, which has been considered to have the following four varieties: Picunche, Moluche (or Araucano), Pehuenche, and Huilliche (mentioned separately in Table 6). Huilliche is related to Mapuche, but barely intelligible with it. Most members of the ethnic group speak Spanish as a first language. Huilliche is mainly used among friends and for ceremonial purposes. Nowadays the language is to be considered moribund with just a few elder speakers. Intercultural Bilingual Education programs may contribute to the survival and extension of the other three Mapuche varieties.

Aymara is spoken in the northern highlands and valleys of Chile and along the coast in Arica and Iquique. About half of the ethnic group of 48,500 has some kind of knowledge of the language, but less than a third transmits it to its children. Due to acculturation processes, the Aymara language is especially lost at a rapid pace in the coastal areas and the valleys. Intercultural Bilingual Education is being implemented in some schools in the highland.

The **Chonan** family is no longer represented in Chile. Whereas in 1880 the Selk'nam ethnic group consisted of about 4,000 members, there were only two direct descendents left in 1980. Today the language is extinct in Chile and Argentina.

The **Quechua** variety spoken in northern Chile is similar to Bolivian Quechua. There are no real data on the number of speakers of Chilean Quechua, which leads to the cautious estimate of about 1,000.

Kunza, also known as Atacameño, is a language isolate spoken in the northern Chilean San Pedro de Atacama desert region. Although the language is extinct, many locals remember words and phrases, along with song texts that are incomprehensible to them (Adelaar 1991: 64).

The isolate **Yahgan** used to be spoken by canoe nomads in the Cape Horn region south of the Isla Grande of Tierra del Fuego. The Yahgan form the world's southernmost ethnic group. Today only one elderly female speaker of Yahgan remains in Villa Ukika on Isla Navarino.

The isolate (or formerly independent small family) **Kawésqar** used to be spoken by canoe nomads traveling in the Patagonian channels of southern Chile between the Golfo de Penas to the north and the Península de Brecknock to the south. In the mid-twentieth century, the Kawésqar settled on land, first in Puerto Edén in southern Patagonia and then also further south in Puerto Natales and Punta Arenas. In spite of the population figure from the 2002 census very few Kawésqar remain today and possibly there may be only 20 speakers left.

During Salvador Allende's presidency (1970–1973) an Indigenous Law was passed, recognizing especially the distinctive culture and history of Mapuche in Chile. A start was made with the restoration of Mapuche communal lands, but this process was reversed under General Augusto Pinochet's dictatorship, which called for the "division of the reserves and the liquidation of the Indian communities" (MRGI 2008). During Pinochet's regime many Mapuche leaders were murdered; others were threatened with imprisonment or exiled.

After Pinochet's step-down in 1989 in favor of a multiparty democracy, a new Indigenous Law was promulgated in 1992. As a result CONADI[33] was created in 1993; this corporation includes directly elected indigenous representatives, and advises and designs government programs to assist the economic development of indigenous people. It also gives indigenous people a voice in decisions affecting their lands, cultures, and traditions and provides for bilingual education. According to MRGI (2008), the creation of CONADI meant that especially more Mapuche became involved in the policy decisions concerning their communities. Nevertheless, their presence in state entities has not always guaranteed them of a voice; directors of CONADI, for instance, could be and were removed if they opposed the government's agenda. The frustration caused by this situation and the escalating conflict over communal lands in the south led to the emergence of more radical and separatist Mapuche organizations in the late 1990s such as the Coordi-

Table 6. Indigenous languages of Chile

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Huilliche (Chesungun)	ARAUCANIAN	2,000 (1982)	few elders	Moribund	
Mapudungun (Mapuche)		604,349	250,000	Endangered	AR
Aymara	AYMARAN	48,501	24,000	Endangered	BO, PE, AR
Selk'nam (Ona)	CHONAN	–	–	Extinct	AR †
Quechua	QUECHUAN	6,175	1,000?	Endangered	AR, BO, PE, EC, CO
Kunza (Atacameño, Likan Antai, Ulipe, Lipe)	ISOLATE	21,015	–	Extinct (1960)	AR †, BO †
Yahgan (Yámana, Háusi Kútə)	ISOLATE	1,685 / **70**[34]	1	Moribund	AR †
Kawésqar (Qawasqar, Alacaluf)	ISOLATE	2,622 / **101**[34]	20	Moribund	

nadora Arauco-Malleco, a Mapuche organization dedicated to the revindication and recovery of former Mapuche lands that was founded in 1998.

The official language of Chile is Spanish and the indigenous languages are officially languages of education, use and conservation (López 2009: 81).

3.4. Colombia[35]

According to the 2005 DANE census (*Censo General 2005*), the indigenous groups of Colombia amount to 1,392,623 persons, representing 3.36 % of the total national population. They live primarily in the departments of La Guajira (19.98 %), Cauca (17.85 %), Nariño (11.14 %) and Córdoba (10.85 %). A mere 8.18 % (113,858 persons) of the indigenous population is concentrated in the Amazon region, where the majority of reserves are located.

Colombia's territory is divided into five natural regions: the Andes mountain range and the Pacific Ocean coastal region in the west, the Caribbean Sea coastal region, the *Llanos* (Plains), and the Amazon region. While most Colombians live in the Andes region and the northern coastline, the southern and eastern portions of the country are mostly sparsely inhabited tropical rainforest and inland tropical plains with small farming communities and indigenous peoples.

Today there are still 68 extant indigenous languages, belonging to 13 language families, 6 isolates, and 2 unclassified languages in Colombia.

Arawakan languages are spoken on the Guajira Peninsula in the northeast, the *Llanos Orientales*, and in the Amazon region. In spite of the fact that some of the seven extant Arawakan languages are seriously endangered and some others quite recently possibly became extinct in Colombia (Baniva, Tariana), there are fortunately also a few Arawakan languages that are quite viable, such as Wayuunaiki (also known as Guajiro), Curripaco and Piapoco. Wayuunaiki is one of the most vigorously spoken indigenous languages in Latin America today.

The **Barbacoan** family in the southwest of Colombia consists of the three languages Awapit, Guambiano and Totoró. Awapit, Guambiano and its closely related sister language Totoró used to be classified as Chibchan, but recent research (Constenla 1981; Curnow and Liddicoat 1998) has shown that these language and the two Ecuadorian languages Tsafiqui and Cha'palaachi together form the Barbacoan family. The Awa form one of the groups that have suffered most under the Colombian civil war and are coping with a very serious acculturation process. There are no real data on the number of speakers (more in Ecuador).

The languages of the **Chibchan** family which are spoken in Colombia are concentrated in the north of the country, represented by seven vigorously spoken languages, of which Kogi, Damana, Chimila, and Ika together form the Aruakan subgroup (Frank 1990; see Constenla Umaña, this volume).

The **Cariban** language family has two members in different regions of the country. Yuko is spoken by a relatively large group in the foothills of the Serranía de Parijá and in the northern part of the eastern Cordillera, parallel to the borderline between Colombia and Venezuela. Carijona, on the other hand, is spoken in the Vaupés area and has less than 10 speakers out of an ethnic group of about 300.

Chocoan has two extant members: Emberá and Waunana. Emberá forms a dialect continuum with different names according to the area in which the respective dialects are spoken: *Cholos* on the Pacific Coast, *Chamí* in Risaralda, *Catío* in Antioquia and *Epérã* in Nariño and Cauca. 50 % of the Colombian Emberá live in the Chocó department. The language is potentially endangered with approximately 88,747 members in the ethnic group (more in Panama and Ecuador).

The **Guahiboan** family, concentrated on the *Llanos Orientales* in the east of Colombia, has five members. According to Queixalós (1992), Sikuani and Cuiba form a dialect continuum. Earlier classifications postulated a genetic relationship between Guahiboan and Arawakan (e.g. Swadesh 1959, 1962; Loukotka 1968), but any similarities between these two families are probably due to language contact (Adelaar with Muysken 2004: 162). The Amazonian **Nadahup** (or Makúan) family is represented by four languages in the Vaupés area in the southeast. Nadahup should not be confused with other languages that go by the name *Maku,* including the unlassified Máku (or Maco) language (see the section on Brazil).

The two languages of the **Sáliba-Piaroan** family are also spoken in different regions of the country. While Piaroa is spoken in the extreme east of the Vaupés department, especially on the border with Venezuela, Sáliba is spoken on the *Llanos Orientales*. In the Orocué area (Casanare department) Sáliba is only preserved to a high degree among elderly women; men, youngsters and children understand everything that is said in Sáliba, but no longer express themselves in the language. It is not clear precisely how many speakers are left in the ethnic group of about 1,900 members.

With 20 languages spoken in Colombia, **Tucanoan** is the language family with the most number of languages in Colombia. Nevertheless, we have to take into account that many of the Amazonian groups that speak these languages are small and that their number of speakers may even be more reduced. As pointed out by Welch and West (2000), there are many more speakers of the Tucano language than the number of 1,500 to 2,000 that they give for the ethnic group, since it is used as a lingua franca in the region of the Paca and Papurí rivers. This might explain the much higher number of 6,996 given for the ethnic group by Arango Ochoa and Sánchez (2004).

The **Witotoan** family's (Aschmann 1993) branches, **Boran** and **Witotoan proper**, are each represented with three languages in the Amazonas department near to the Peruvian border. The Boran languages, Bora, Miraña, and Muinane, are all seriously endangered: all speakers of Bora in Colombia are over 30–40 years of age (more in Peru), there are less than 100 Miraña speakers, and there are just about 50–100 Muinane speakers[36] left. Due to the atrocities committed by the rubber company *Casa Arana* during the rubber boom at the beginning of the twentieth century the Witoto (Huitoto) became one of the most decimated indigenous groups of the Amazon. In spite of these hardships, the language is quite stable (more in Peru and Brazil).

The following families are represented in Colombia each by a single language: **Peba-Yaguan**, **Quechuan**, and **Tupí-Guaranían**.

The six isolates are: **A'ingae** (or Cofán), in the southeast on the border with Ecuador; **Andoke**, spoken in the same region as the Boran and Witotoan languages; **Kamsá**, in the southwest, along the upper course of the Putumayo River; **Nasa Yuwe** (or Paéz) on the eastern slopes of the Central Andes Range; **Ticuna**, along the west bank of the Amazon River, in the so-called *trapecio amazónico*, the triple frontier zone with Peru and Brazil; **Tinigua**, on the *Llanos Orientales* and on the brink of extinction with only one speaker left.

Carabayo, is the name of an uncontacted group in the Amazonas department, on the right bank of the Caquetá River and on the San Bernardo River. The language spoken by this small group remains unclassified for lack of data. **Wãnsöhöt** (also known as Puinave), finally, spoken along the frontier between Colombia and Venezuela, especially in the Guainía territory has sometimes been classified as as an isolate and other times as belonging to the Puinavean (or Makú-Puinavean) family, together with the Nadahup (Makúan) languages. In recent years the lack of strong evidence for a genetic relationship between Wãnsöhöt and Nadahup has led to the exclusion of Wãnsöhöt from the Nadahup family (see Epps 2005; Martins 2005; Girón 2008). Campbell (this volume), however, states that the cognate sets presented in Martins (2005: 331–341) and Girón 2008: (428–433) confirm the relationship of Wãnsöhöt with the Nadahup languages. In view of the ongoing discussion Wãnsöhöt has been listed in Table 7 as "unclassified".

Table 7. Indigenous languages of Colombia

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Achagua	ARAWAKAN	283 (2001)	283	Seriously endangered	VE †
Baniva (Baniva del Guainía)		?	few?	Seriously endangered	VE, BR
Cabiyarí (Kabiyari, Kawiyarí, Kawiri, Cauyari, Cabuyari)		311 (2001)	311	Seriously endangered	
Curripaco (Curripaco-Baniva, Kurripako, Baniva del Isana)		7,827 (2001)	7,000?	Potentially endangered	VE, BR
Wayuunaiki (Guajiro, Goajiro)		149,827 (2001)	149,827	Potentially endangered	VE
Piapoco (Piapoko, Tsáçe)		4,926 (2001)	4,926	Potentially endangered	VE
Tariana (Tariano)		445 (2001)	0?	Possibly extinct	BR
Yucuna-Matapí (Yukuna)		770 (221)	770	Endangered	BR?
Awa Pit (Awapit, Awá, Awa-Cuaiquer, Cuaiquer, Kwaiker)	BARBACOAN	15,364 (2001)	<15,364	Endangered	EC
Guambiano (Coconuco, Guanaca)		23,462 (2001)	23,462	Endangered	
Totoró		4,130 (2001)	4	Moribund	
Carijona (Karijona, Tsahá)	CARIBAN	307 (2001)	<10	Moribund	
Opón-Carare		?	–	Extinct	
Yuko (Yukpa, Yucpa, Japrería)		3,651 (2001)	3,651	Potentially endangered	VE
Arhuaco (Ika, Ijka, Bíntukua)	CHIBCHAN	14,799 (2001)	14,799	Potentially endangered	
Barí (Motilón)		3,617 (2001)	3,617	Potentially endangered	VE
Chimila (Ette Taara)		900 (2001)	900	Endangered	
Cuna (Kuna, Tule)		1,231 (2001)	1,231	Endangered	PA
Damana (Sanka, Malayo, Arsario, Wiwa)		1,922 (2001)	1,922	Endangered	
Kogui (Kawgian, Kággaba, Kogi)		9,911 (2001)	9,911	Potentially endangered	
Uwa-Tunebo (Uw Kuwa, U'wa)		7,231 (2001)	7,231	Potentially endangered	VE †
Emberá (Pede Epenã, Epérã Pedée, Pede, Chamí, Catío, Katío, Sambú)	CHOCOAN	88,747 (2001)	88,747?	Potentially endangered	EC, PA
Waunana (Waunán, Waunméu, Waumeo, Chocó, Noanama)		8,177	8,177	Potentially endangered	PA
Zenú		34,566	–	Extinct	

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Cuiba (Cuiva, Kuiva)	GUAHIBOAN	2,445 (2001)	2,445	Endangered	VE
Sikuani (Hiwi, Jive, Guahibo, Vichadeño, Amorúa, Tigrero)		23,006 (2001)	23,006	Potentially endangered	VE
Guayabero (Mitua, Jiw)		1,118 (2001)	1,118	Endangered	
Hitnu (Jitnu, Macaguane-Hitnu)		441 (2001)	441?	Endangered	
Pepojivi (Playero, Guahibo Playero)		<200 (1982)	<200	Seriously endangered	VE
Hup (Hupda, Hupdë)	NADAHUP	235	235	Seriously endangered	BR
Kakua (Cakua)		220	220	Seriously endangered	
Nukak		390	390	Endangered	
Yuhup (Yuhuo Makú)		200	200	Seriously endangered	BR
Yagua (Yawa)	PEBA-YAGUAN	297 (2001)	297	Endangered	PE
Inga (Ingano)	QUECHUAN	19,079 (2001)	8,000	Endangered	
Piaroa	SÁLIBA-PIAROAN	773 (2001)	773	Endangered	VE
Sáliba (Sáliva)		1,929 (2001)	<1,929	Endangered	VE
Bará (Waimaja, Waimasa, Waymasa, Waimaha, Barasano del Norte)	TUCANOAN	109 (2001)	109	Seriously endangered	BR
Barasana (Barasano, Barasano del Sur, Pãnerã, Banera Yae)		1,890 (1997)	1,890	Endangered	BR
Carapana (Karapana)		464 (2001)	464	Endangered	BR
Cubeo (Kubeo)		6,647 (2001)	6,647	Potentially endangered	BR
Desano		2,457 (2001)	2,457	Endangered	BR
Koreguaje (Coreguaje, Ko'reuaju)		2,212 (2001)	2,212	Endangered	
Macaguaje (Makaguaje)		50 (2001)	0?	Possibly extinct	
Macuna (Makuna)		1,009 (2001)	1,009	Endangered	BR
Piratapuyo (Piratapuya)		630 (2001)	630	Endangered	BR
Pisamira (Pápiwa)		61 (2001)	25	Seriously endangered	BR
Siona (Siona-Secoya)		734 (2001)	500 (2003)	Endangered	EC, PE
Siriano		749 (2001)	749	Endangered	BR
Taiwano (Taibano, Eduria)		22 (2001)	22	Moribund	
Tanimuca-Letuama (Opaina, Ufaina, Retuarã)		1,952 (2001)	<1,952[37]	Endangered	

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Tatuyo		331 (2001)	331	Endangered	
Tucano		6,996 (2001)	6,996	Potentially endangered	BR
Tuyuca		642 (2001)	642	Endangered	BR
Wanano (Guanano, Kotiria)		1,395 (2001)	1,395	Endangered	BR
Yauna		103 (2001)	103?	Seriously endangered	
Yurutí		687 (2001)	687	Endangered	BR
Cocama (Kokama, Cocama-Cocamilla)	TUPÍAN, TUPÍ-GUARANÍAN	792 (2001)	few semi-speakers	Moribund	PE, BR
Nonuya	WITOTOAN, WITOTOAN PROPER	228 (2001)	2	Moribund	
Ocaina		137	137	Seriously endangered	PE
Witoto (Witoto, Witoto Murui, Witoto Mïnïca, Witoto Muinane)		7,343	7,343	Potentially endangered	PE, BR †?
Bora	WITOTOAN, BORAN	701 (2001)	<500	Seriously endangered	PE
Miraña		715 (2001)	<100	Seriously endangered	BR
Muinane (Bora Muinane)		547	50–100?	Seriously endangered	
A'ingae (Cofán, Kofán)	ISOLATE	1,143 (2000)	379 (2008)	Endangered	EC
Andoke (Andoque)	ISOLATE	597 (2001)	597	Endangered	
Kamsá (Camsá, Kamëntsa)	ISOLATE	4,773 (2001)	4,773	Potentially endangered	
Nasa Yuwe (Paéz)	ISOLATE	138,501 (2001)	60,000	Endangered	
Ticuna (Tikuna)	ISOLATE	7,102 (2001)	7,102	Potentially endangered	PE, BR
Tinigua	ISOLATE	1?	1 (2008)	Moribund	
Carabayo (Yuri)	UNCLASSIFIED	217 (2001)	217	Seriously endangered	
Wänsöhöt (Puinave)	UNCLASSIFIED	6,604 (2001)	6,604	Potentially endangered	VE

The 1991 Constitution recognizes and protects the ethnic and cultural diversity of the Colombian nation; promotes de adoption of measures "in favor of groups that are discriminated against or marginalized"; and provides that "the communal lands of ethnic groups are inalienable, imprescriptible and guaranteed against seizure".

Individual indigenous groups are organized in various ways. A number of groups are represented through the ONIC.[38] Increasing organization and agitation have sharply broadened the indigenous land base over the past forty years. Indigenous peoples hold title to substantial portions of Colombia, primarily in the form of *resguardos* 'reserves'.

Spanish is the official language of Colombia, but the indigenous languages are constitutionally recognized as official languages in their territories. The Constitu-

tion also enshrines the right to bilingual and intercultural education for all minority groups and offers double nationality to indigenous communities living in border areas. In places with non-Spanish linguistic traditions, bilingual education is obligatory.

3.5. Ecuador[39]

In the 2001 Ecuadorian census, 6.83 % of the total population surveyed declared itself indigenous. However, only 60.4 % of these 830,418 persons identified with one of the 13 indigenous nations in Ecuador.

Multilingualism is pervasive in Ecuador. All groups speak two and in some cases up to four languages. Thus, for example, of the 27 groups registered by SIDENPE (Indicator System of Nations and Peoples of Ecuador),[40] 19 speak Quichua (Kichwa, Quechua); the Huaorani are quadrilingual in Huao, Spanish, Quichua, and Shuar, and the Achuar are quadrilingual in Achuar-Shiwiari, Spanish, Shuar, and Quichua. Despite the 2001 Census, the exact size of the Ecuadorian indigenous population or the number of Quichua speakers is still not entirely clear. Haboud (2004: 70) points out that, according to the ethnic census carried out by the Confederation of Indigenous Nations of Ecuador[41] in 1997, at least 30 % of the Ecuadorian population – estimated at that time at 12,000,000 – recognize themselves as Indians. Moreover, about 2,000,000 people in the highlands, and 60,000 in the Amazonian lowlands would be native Quichua speakers (Büttner 1993; Haboud 1998).

Mainland Ecuador can be subdivided into three distinct geographic regions: the coastal region (*Costa*), the mountain region (*Sierra*), and the Amazonian region (*Amazonía*).

Table 8 shows the six language families and two isolates represented in Ecuador. The family with most speakers is obviously **Quechuan**, predominantly spoken in the Sierra, followed by **Jivaroan**, which consists of the three relatively stable Amazonian languages, Achuar-Shiwiara, Shiwiar-Chicham, and Shuar.

The **Barbacoan** family is represented by three languages in the Pacific region: Awapit, Cha'palaa, and Tsafiqui. In the early 1920s Ecuadorian Awa-Cuaiquer migrated from Altaquer in Colombia to Ecuador and due to the civil war in Colombia more Awa-Cuaiquer have been arriving in Ecuador in the past years.

Epera Pedede is the only member of the **Chocoan** family in Ecuador. It is spoken in the coastal region, in the province of Esmeraldas, opposite the black community of Borbón at the confluence of the Santiago and Cayapas rivers. In 1964, a group of Epera from the Colombian Chocó region immigrated to the Ecuadorian Chocó region.

Tucanoan is represented by the two small languages, Secoya and Pai Coca, in the northern part of Ecuador's Amazon region. Teteté, a third Tucanoan language, in the eastern jungle near the Colombian border, in the area of the Cofán is possibly no longer spoken.

Záparo, spoken in the province of Pastaza, in the Amazonian region, between the Curaray River and the lower course of the Bobanaza – principally along the Conambo River – in the Montalvo area, is the only **Zaparoan** language in Ecuador. In spite of the much higher outcome of the 2001 census only about 20 elderly Záparo still have some variable degree of knowledge of the language. Recently small groups of Ecuadorian Záparo have been going into Peru to contact their relatives, the Arabela. In the 1930s and/or 1940s, the Arabela were held as forced laborers on an Ecuadorian farm along the Curaray River. The Arabela who are nowadays in Peru succeeded in escaping, but a small group stayed on in Ecuador. It is possible that this small group of Arabela still exists, although by now its members will probably have become speakers of Quichua.

A'ingae and **Huao** are the two language isolates spoken in Ecuador. The Cofán show an accelerated loss of the A'ingae language, on the one hand because of mixed marriages, and on the other hand because of the complete loss of the Cofán cultural identity. The ongoing guerrilla war in Colombia has been chasing the Colombian Cofán into Ecuador in the past years.

Table 8. Indigenous languages of Ecuador

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Awapit	BARBACOAN	3,283	2,100	Endangered	CO
Cha'palaa (Cha'palaachi, Chachi, Cayapa)		5,465	5,871	Endangered	
Tsafiqui (Tsafiki, Tsáchila, Tsachela, Colorado)		1,484	1,872	Endangered	
Epera Pedede (Êpera, Epena Pedee, Siapedie, Emberá, Emberá del Sur, Emberá Chami)	CHOCOAN	65	52	Seriously endangered	CO
Achuar-Shiwiara (Achiar Chicham)	JIVAROAN	2,404	2,943	Endangered	PE
Shiwiar Chicham		612	579	Endangered	
Shuar (Chicham)		52,697	42,261	Potentially endangered	
Quichua (Cañar, Azuay, Cotopaxo, Tungurahua, Chimborazo, Imbabura, Loza, Napo, Pastaza, and Salasaca dialects)	QUECHUAN	408,395	451,783	Potentially endangered	AR, CH, BO, PE, CO
Secoya (Siona-Secoya, Pai Coca)	TUCANOAN	240	85	Seriously endangered	CO, PE
Pai Coca (Siona, Kokakañú)		304	260	Seriously endangered	
Teteté		?	2 (1969)	Possibly extinct	
Záparo (Kayapi)	ZAPAROAN	346	176	Seriously endangered	
A'ingae (Cofán)	ISOLATE	1,044	638	Endangered	CO
Huao (Wao, Waorani, Waotededo, Wao Tiriro, Auca, Sabela)	ISOLATE	1,534	1,616	Endangered	

According to the new 2008 Constitution, Spanish is the official language of Ecuador. Moreover, Spanish, Quechua and Shuar are official languages of intercultural relation. The rest of the ancestral languages are of official use for the indigenous peoples in the territories where they live.

3.6. The Guianas

This section reviews the state of language endangerment in the Guianas, a region including three territories on the northeast coast of South America: Guyana, Suriname and French Guiana. Many of the languages spoken in these three countries are "cross-border languages" or, in other words, languages spoken by groups whose traditional territories have been divided by one or more frontiers.

According to Carlin (forthcoming), the exact state of the American Indian languages and peoples of the Guianas is uncertain, but definitely gloomy. Most of the number of speakers in the following tables may be even lower due to the continuous mix-up of the number of the ethnic group with the actual number of speakers, as already mentioned in Section 2.

3.6.1. Guyana[42]

The indigenous peoples of Guyana – in total about 50,000 individuals – make up close to 6.5 % of the entire population of 772,300. The indigenous population rose by 22,097 people between 1991 and 2002, which represents an increase of 47.3 % or annual growth of 3.5 %.

Two language families, an isolate, and an unclassified language are still extant in Guyana today.

Arawakan has two members: Lokono and Wapishana. According to Forte (2000), the number of speakers of Lokono amounts to less than 10 % of the total population of the Lokono ethnic group in Guyana. The number of speakers of Wapishana is not clear. According to Carlin (forthcoming), Wapishana is rapidly losing out to English in Guyana with the result that by far not all Wapishana speak their native language. There are only a few rememberers of the Arawakan language Mawayana among the Mawayana that live with the Waiwai of Guyana (Carlin, forthcoming).

The **Cariban** family is represented by the following six languages: Kari'na, Waiwai, the Kapon languages Akawayo and Patamona, and the Pemon languages Arekuna and Makushí. Patamona is losing out to the official language, English (Carlin, forthcoming). The vast majority of the Arekuna (± 27,000) live in the Gran Sabana region of Venezuela. Most of the Arekuna in Guyana migrated to this country at the beginning of last century to form the communities of Paruima and Kaikan in the Upper Mazaruni district. According to Carlin (forthcoming), the number of Makushí speakers is much lower than the population number of 7,750

(Forte 2000), since Makushí is also losing out to the official language, English. The coastal Kari'na communities, which are reasonably accessible because they are on the coast, face the loss of their native language for a number of geographic and historical reasons. Despite this prognosis, the significant Kari'na communities that are located in the remote wetland forested areas of the Guyana North West – who speak Kari'na as a first language – ensure that there is no immediate threat of extinction in the short term. Most of the Waiwai migrated from Guyana to Brazil in the aftermath of the 1969 Rupununi Uprising. They settled in the states of Pará, Roraima and Amapá in Brazil. The settlements in the two countries maintain links, particularly for trade and religious worship. According to Carlin (forthcoming), Waiwai is one of the more stable languages in Guyana due to its relatively inaccessible location.

Warao is a language isolate spoken the Orinoco Delta and adjoining areas in northeastern Venezuela and Guyana. In the 1980s, in particular when the Guyanese economy went into steep decline, many Warao from Guyana trekked to the Amacuro Delta on the Venezuelan side. There the Warao renewed links with their kinsfolk across the border and many of them recounted later that the circumstances forced them to communicate in their language. In Guyana, the Warao who live in closer contact to coastal society, are more acculturated than those residing close to the border areas with Venezuela. However, in view of the big Warao populations of Venezuela, and the cross-border traffic between Guyanese and Venezuelan Warao, there is no immediate threat of extinction of the language, even though there are not many Warao speakers in Guyana.

Taruma, finally, was thought to be extinct, since it was believed that the ethnic group had disappeared or had been assimilated into other indigenous groups by the mid-nineteenth century (Carlin, forthcoming). Carlin, however, mentions a few speakers in Maruranau, a Wapishana village in the Rupanuni, Guyana.

Although the indigenous languages of Guyana are officially languages of communitarian use (López 2009: 81), there has been no bilingual education so far (Forte 2000).

Table 9. Indigenous languages of Guyana

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Lokono (Arawak)	ARAWAKAN	15,500 (2000)	1,500	Seriously endangered	SU, GF, VE
Wapishana		6,900 (2000)	<6,900	Endangered	BR
Mawayana		?	few remem-berers	Extinct	SU, BR †
Akawayo (Kapon)	CARIBAN	5,000 (2000)	<5,000	Endangered	VE, BR
Arekuna (Pemon)		400–500	400–500	Endangered	VE, BR
Kari'na (Carib)		3,000 (2000)	few hundred	Seriously endangered	GF, SU, VE, BR
Makushi (Pemon)		7,750 (2000)	<7,750	Endangered	VE, BR
Patamona (Kapon)		5,000 (2000)	<5,000	Endangered	VE, BR
Waiwai		240	240	Seriously endangered	BR
Warao	ISOLATE	5,000 (2000)	few	Seriously endangered	VE
Taruma (Saluma, Saloema, Charuma)	UNCLASSIFIED	?	few	Moribund	SU †, BR †

3.6.2. Suriname[43]

The indigenous population of Suriname today comes to approximately 7,000 (1.45 % of the total population). The eight extant indigenous languages of Suriname belong to two language families.

The **Arawakan** family is represented by the two languages Lokono and Mawayana. The Lokono villages show a progressive loss of language, culture and tradition. Young people are no longer interested in learning their own language, and the daily spoken language in these villages is Sranantongo, an English-based Creole language, and sometimes Dutch. There are about 500–700 speakers out of an ethnic group of 2,000 in Suriname. There are only three Mawayana speakers and two other Mawayana with a good passive knowledge of their language in the Trio village Kwamalasamutu (Carlin, forthcoming). The Mawayana are mixed with Waiwai and predominantly live among the Waiwai in Guyana; only a few are in Suriname. The Mawayana now speak Trio as their primary language.

Of the six extant **Cariban** languages in Suriname three are moribund. The Akuriyo were the last of the indigenous groups in Suriname to leave their nomadic way of life in the forest, and are now living among the Trio, whose language they have shifted to. After the death of the last two speakers in 2002 there are only three rememberers of Akuriyo left (Carlin, forthcoming). The Sikïiyana are relative late-comers to the Trio community of Kwamalasamutu and nowadays all speak Trio as their primary language. There are about 12 elderly speakers left in the group (Carlin, forthcoming). The Tunayana live among the Trio in Kwamalasa-

mutu on the Sipaliwini River. The Tunayana are mixed with Waiwai. In the 1960s, missionaries, who had been active among the Waiwai in neighbouring Guyana, came to evangelize the Surinamese American Indians of the interior. They brought with them a few Waiwai, as well as Mawayana and Tunayana who had been living among the Waiwai, and whose task it was to learn Trio in order to convert them. The Tunayana and Mawayana have remained in Suriname and now speak Trio as their first language. There are only about 10 elderly speakers of Tunayana out of an ethnic group of about 80–90. Kari'na villages in the west and central part of Suriname are struggling with a progressive loss of language, culture and tradition. Young people only speak Sranantongo and Dutch. The situation in the east is better. In the village of Galibi, for instance, which is located on the mouth of the Maroni River, the Kari'na language and culture are still preserved, although even there intergenerational transfer seldom takes place. Trio and Wayana are relatively stable languages. Although Trio is still actively spoken by all members of the ethnic group, Carlin (forthcoming) points out that its future is becoming more and more uncertain due to growing contact with Paramaribo, the capital of Suriname. Wayana is still actively spoken in the geograhically distant and isolated villages. Although Dutch is taught at school in some villages, everybody speaks Wayana outside the schools. In trade relations with non-indigenous people Sranantongo is used. However, the Wayana have continued to lose speakers to French Guiana, partly as a result of the war of the interior, but also because of the better socio-economic conditions that prevail there.

While Dutch is the sole official language in Suriname, Sranantongo is used as a lingua franca. The indigenous languages of Suriname are officially languages of communitarian use (López 2009: 81).

Table 10. Indigenous languages of Suriname

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Lokono (Arawak)	ARAWAKAN	2,000	500–700	Endangered	GF, GY, VE
Mawayana		60–80	<5	Moribund	
Akuriyo	CARIBAN	40–50	3	Moribund	
Kari'na (Carib)		3,000	1,200	Seriously endangered	GY, GF, VE, BR
Sikïiyana		60–70	<12	Moribund	
Trio		1,300	1,300	Endangered	BR
Tunayana (Katuena)		80–90	10	Moribund	
Wayana		450	450	Endangered	GF, BR

3.6.3. French Guiana[44]

Today French Guiana's indigenous population of approximately 8,000[45] makes up 3.61 % of the total population of 221,500. Seven languages belonging to three language families are still spoken.

The **Arawakan** language Arawak (Lokono) is seriously endangered, since the settlements of the group are located near urban centers. Intergenerational transfer of the language no longer takes place and only about 25 % of the population still speaks it (Renault-Lescure 2009: 385). Moreover, Lokono is losing out to Sranantongo, Suriname's lingua franca. Palikur is also spoken near urban centers and is rapidly losing out to Brazilian Portuguese and Creole (Renault-Lescure 2009: 385). The number of speakers of Palikur is unknown.

The **Cariban** family is represented by Galibi (Kari'na) and Wayana. With the exception of the situation in Iracoubo, the Galibi, who like the Arawakan groups live close to urban centers, seem to preserve their language. According to Carlin (forthcoming), a few Aparaí speakers live among the Wayana in French Guiana. Some Akuriyo and Tiriyó have also been signaled in Wayana communities. The Wayana have continued to gain speakers from Suriname, partly as a result of the war in Suriname's interior, but also because of the better socio-economic conditions that prevail in French Guiana.

The **Tupí-Guaranían** languages Emérillon and Wayãpi are also endangered. The Emérillon form the only ethnic group in French Guiana that is not represented in one of the neighboring countries as well. Halfway through the twentieth century, they were on the brink of extinction, but nowadays the Emérillon group has grown again due to intermarriage with Wayana and Wayãpi. Nevertheless intergenerational transfer of the language still takes place so that all Emérillon speak their language (Rose 2003). The Wayãpi migrated from the Lower Xingu (Brazil) to the Guianas at the end of the seventeenth century.

The official language of French Guiana is French. So far the indigenous languages of French Guiana have no official status (López 2009: 81).

Table 11. Indigenous languages of French Guiana

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Arawak (Lokono)	ARAWAKAN	1,500	375	Seriously endangered	SU, GY, VE
Palikur		1,500	<1,500	Endangered	BR
Aparaí	CARIBAN	?	few	Seriously endangered	BR
Galibi (Kari'na, Kali'na)		4,000	2,400	Endangered	SU, GY, VE, BR
Wayana		1,000	1000	Endangered	SU, BR
Emérillon (Teko)	TUPÍAN, TUPÍ-GUARANÍAN	400	400	Endangered	
Wayãpi (Wajãpi, Wayampi)		750	750	Endangered	BR

3.7. Paraguay[46]

Paraguay consists of two ecologically and demographically very distinct areas, divided by the Paraguay River: the dry Chaco in the west and a subtropical region with rainfall throughout the whole year in the east. While the Tupí-Guaranían groups in the east are basically farmers, the Chaco groups are hunter-gatherers, occasionally fishermen.

According the 2002 indigenous Census, there are 496 communities or villages inhabited by 19 indigenous groups distributed over 13 departments and the capital of the country, with a total of 103,308 persons (2008 DGEEC update).

Enlhet-Enenlhet (also called **Maskoyan**) is a family consisting of the following six languages, which are exclusively spoken in the Paraguayan Chaco: Angaité, Enlhet, Enxet, Guaná, Sanapaná, and Toba-Enenlhet (also known as Toba-Maskoy). According to Melià (2009: 188), big changes have taken place in this family, since many communities have abandoned or "transformed" their language. With the exception of the Enlhet and Toba-Enenlhet,[47] all groups show very high percentages of Paraguayan Guaraní usage (Sanapaná 65.16 %, Enxet 71.59 %, Angaité 81.10 %, Guaná 81.81 %, and Maskoy 84.39 %). Only 27.88 % of the Angaité, 11.98 % of the Guaná and 1.58 % of the Maskoy still speak their native language, but the massive shift to Paraguayan Guaraní does not imply a shift to Spanish at the same time: 9.55 % of the Angaité, 12.80 % of the Guaná, and 23.67 % of the Maskoy contend they speak Spanish. The Enlhet, however, of whom 89.17 % still speak the ancestral language, show a much higher percentage of Spanish speakers (47.74 %), while a mere 15.15 % speak Paraguayan Guaraní.[48] The shift to Paraguayan Guaraní by most of the Enlhet-Enenlhet groups is probably due to their employment in the tannin factories established on the Upper Paraguay River at the end of the nineteenth century and their dispersal after the bankruptcy of these factories in the past five decades. The Angaité, for example, were forced to look for other employment, mainly on cattle farms, where it is difficult to maintain their identity and cultural background.

The **Guaicuruan** family is only represented by one language in Paraguay, Toba-Qom, which is the same language as Toba in Argentina and should not be confused with Toba-Enenlhet. In the past the Toba-Qom have been displaced frequently from their lands, which nowadays are used as farming grounds. In spite of their complicated cultural history that led to a special ethnic, linguistic, and cultural mix and the fact that they worked on farms for decades, the Toba-Qom maintain their language to a high degree (80.25 %). Today they group together in four mayor communities: one in the Región Oriental near Villa del Rosario and three others in the Benjamín Aceval district in Presidente Hayes department.

The following three **Matacoan** languages are spoken in Paraguay: Maká, Manjuy (known as Chorote),[49] and Nivaclé. The nomadic Maká were first contacted in 1927 in the Paraguayan portion of the Gran Chaco, at the sources of the Confuso

and Montelindo rivers, tributaries of the Paraguay River. During the Chaco War (1932–1935) the Maká fought against Bolivia and by way of compensation were relocated after the war to Colonia Fray Bartolomé de las Casas on the west bank of the Paraguay River, opposite Puerto Botánico (Asunción). They remained there until 1985 when they were brought to their current location, Colonia Indígena Maká in the Mariano Roque Alonso district at a distance of 20 kilometers from the city of Asunción. In spite of their new urban way of life far away from their traditional habitat, 81.27 % of the Maká still preserve the native language. The Manjuy can be subdivided into two main groups and their language consequently into two dialects: Yofuáha, spoken on the south bank of the Pilcomayo River, downstream from the second dialect, and Yowúwa, spoken in the interior of Paraguay. There were bands of uncontacted Manjuy until well into the 1970s. Although the 2002 census registers a high loyalty to the native language and low percentages of Spanish (16.81 %) and Paraguayan Guaraní (6.85 %) speakers, Melià points out that the Manjuy hardly form a group on their own. In their homes the Manjuy supposedly speak their own language, but at the same time there is reliable information that the language is used less and less (Melià 2009: 192). The Nivaclé can be subdivided into the following four groups: the Tovoc Lhavós "river people", the Yita'a Lhavós "forest people", the Jotoy Lhavós (to the north of the Mennonite colonies), and the Tavashay Lhavós, who are in close contact with the Maká. The Nivaclé group in Paraguay is much bigger than in Argentina and the language is also preserved to a higher degree (84.04 %). At the same time the Nivaclé have the fewest number of speakers of Paraguayan Guaraní (6.54 %) and a relatively high percentage of bilinguals in Spanish (overall 38.60 % but even 73.02 % in the under-40 generations). According to Melià, this sociolinguistic scenario may be attributed to the fact that the Nivaclé have been in close contact with Argentinean *criollos* on the sugar plantations. Moreover, the ways in which the colonization took place in the Eastern Chaco (Paraguay River) differed from those in the Western Chaco (Pilcomayo) (Melià 2009: 192).

Of Paraguay's six **Tupí-Guaranían** languages four are spoken by groups in eastern Paraguay and two, Ñandeva and Guaraní Occidental (Western Guaraní, called Guaraní in Bolivia and Ava-Guaraní in Argentina), by groups in the Central and Northern Chaco towards the border with Bolivia, from where they migrated in 1935 after the Chaco War (Melià 2009: 179). Guaraní Occidental is to be considered seriously endangered, since the language is rapidly losing out to Paraguayan Guaraní, one of the two national languages. According to the 2002 census, only 26.63 % of the ethnic group still speak the language, while 80 % speak Paraguayan Guaraní. Of the Ñandeva, however, 78.12 % still speak their ancestral language, while 71.52 % contend that they speak Paraguayan Guaraní. In the east, the Ava-Guaraní – called Guaraní Ñandeva in Brazil! – are by far the most accultarated group. While they were forced to work under miserable circumstances on maté plantations from the nineteenth century onwards, the deforestation of their tradi-

tional habitat has forced them to look for alternative ways of subsistence from the 1960s onwards. As a consequence, Ava-Guaraní is progressively losing out to Paraguayan Guaraní. The Mbyá lived in isolation from Paraguayan society until the 1960s, but the deforestation of their traditional habitat and the occupation of their territories by so-called landless farmers have led them to scatter all over Paraguay. Contrary to the Ava Guaraní and the Pãi-Tavyterã who only use their language in cultural and religious contexts, the Mbyá still use their language in day-to-day speech.

The **Zamucoan** family consists of the two languages Ayoreo and Chamacoco (Ishir). Even before their contact with Western society, the Ayoreo were persecuted relentlessly. In the first half of the twentieth century young men could get their discharge from military service by killing an Ayoreo. The first contact took place in 1956, when the whites captured an Ayoreo boy. As far as is known, the last uncontacted Ayoreo came out of the forest in 2004 (Melià 2009: 193), but, according to Brackelaire (2006) there are still about 50 uncontacted Ayoreo in the Northern Chaco near to the Bolivian border. They live in various small groups that apparently are not in contact with each other. In spite of all their hardships the Ayoreo maintain their identity and language (87.10 %) to a high degree. The Chamacoco group consists of three culturally and linguistically distinct subgroups: the Xorshio, which have disappeared, the Ybytoso on the Upper Paraguay River and the Tomárahõ in the interior. In the twentieth century, the Ybytoso underwent a process of continuous assimilation with national society due to their contacts with the missions and their employment in the tannin factories (Melià 2009: 193). Nevertheless 79.9 % of the Ybytoso still speak their ancestral language, although many (62.73 %) also speak Spanish, more so than Paraguayan Guaraní (37.94 %). The Tomárahõ form a small group, in which the language is also highly preserved (82.52 %), but with a high percentage of bilinguals in Paraguayan Guaraní (62.13 %).

Article 140 of the 1992 National Constitution qualifies Paraguay as a multicultural but at the same time bilingual country. The fact, however, that Paraguayan Guaraní is the only co-official language of Paraguay, alongside Spanish, seems to be in contradiction with this article (see Kalish 2007). Paraguay's constitution is bilingual, and its state-produced textbooks are typically half in Spanish and half in Paraguayan Guaraní. The indigenous languages are officially languages of education and cultural heritage (López 2009: 81).

Table 12. Indigenous languages of Paraguay

Language	Genetic affiliation	Population	Speaker[50] number	Degree of endangerment	Other countries
Angaité	ENLHET-ENENLHET	3,730	1,030	Endangered	
Enlhet (Enlhet Norte, Enslet, Enthlit, Enlhet-Lengua, Lengua)		7,316	6,439	Endangered	
Enxet (Enxet Sur)		5,930	3,842	Endangered	
Guaná (Kashika)		258	29	Seriously endangered	
Sanapaná (Sa'apan, Kasnapan)		2,327	984	Endangered	
Toba-Enenlhet (Toba-Maskoy)					
(Toba-Maskoy)		1,509 764	1,253 12	Endangered Moribund	
Toba-Qom (Qom-Lik, Emok-Lik, Takshika, Toba in AR!)	GUAICURUAN	1,499	1,183	Endangered	AR
Maká (Maca)	MATACOAN	1,307	1,042	Endangered	
Manjuy (Manjui, Chorote in AR; three varieties: Iyo'wuhwa, Iyojwa'ja [Yohwaha], and Montaraz [Wikinawos, Manjuy])		452	365	Endangered	AR
Nivaclé (Nivaklé, Chulupí, Ashluslay)		12,169	10,109	Endangered	AR
Aché (Axé, Aché-Guayaki, Guayakí)	TUPÍAN, TUPÍ-GUARANÍAN	1,242	911	Endangered	
Ava-Guaraní (Chiripá, Ava-Chiripá, Chiripá-Guaraní, Ava-katu-ete, Ñandeva in BR)		13,872	6,308	Endangered	BR
Guaraní-Ñandeva (Ñandeva, Tapieté)		2,021	1,550	Endangered	AR, BO
Guaraní Occidental (Ava-Guaraní in AR, Guaraní (Chiriguano) in BO)[51]		2,359	574	Seriously endangered	AR, BO
Mbyá		14,624	10,016	Endangered	AR, BR
Pãi-Tavyterã (Kaiova, Kaiowa, Avá)		13,391	6,364	Endangered	BR
Ayoreo (Moro, Pyta Jovai)	ZAMUCOAN	2,100	1,756	Endangered	BO
Chamacoco (Ishir, Yshyrö)					
Ybytoso		1,553	1,174	Endangered	BR
Tamárâho		106	85		

3.8. Peru[52]

According to the 2007 census, the indigenous population of Peru[53] is 4,045,713, which is 14.76 % of the total population. The indigenous population can be subdivided into Quechua (83.11 %), Aymara (10.92 %), Asháninka (1.67 %), and other Amazonian groups – besides the Asháninka – that speak Spanish as a second lan-

guage (Solís 2009: 306). The total indigenous population in the Peruvian Amazon region amounts to 332,975. The Asháninka form the biggest group and make up 26.6 % of this Amazonian indigenous population, followed by Awajún (also known as Aguaruna) (16.6 %), Shipibo-Konibo (6.76 %), and Shawi (Chayahuita) (6.43 %).[54]

As shown in Table 13, the languages of Peru belong to no less than 14 language families; moreover, there still are 4 extant language isolates and 2 unclassified languages.

From a demographic point of view, the Andean families **Quechuan** and **Aymaran** are by far the most dominant language families of Peru, even though the number of speakers remains unclear. But even Quechuan, with a population figure of over 3.25 million, has two seriously endangered dialects: Chachapoyas Quechua with 500 speakers (1993) is no longer transferred intergenerationally, and Pacaraos Quechua with only 35 speakers (1993) or rememberers is in even worse state. Due to large-scale migration into the lowlands, the Quechua today also make up 10.9 % of the lowland population and Quechuan is, therefore, the third largest family in the Peruvian Amazon. Aymaran consists of the following three extant languages: Aymara, Cauqui and Jaqaru. The Cauqui language has generally been considered a dialect of Jaqaru (e.g. Belleza Castro 1995; Adelaar with Muysken 2004; Adelaar, this volume), but at times it is also considered to be a separate language (Hardman 1975, 1978). According to Adelaar with Muysken (2004: 171), "a comparison of the Cauqui and Jaqaru versions of a quatrilingual text elaborated by Belleza, Ferrell and Huayhua (1992) suggests that the differences do not exceed the level of mutual intelligibility". With nine speakers (2005), the language is moribund. The population and number of speakers of Jaqaru are not entirely clear, but all Jaqaru are bilingual in Spanish.

The **Arawakan** family is by far the most numerous in the foothills and Amazonian lowlands of Peru, both in terms of demography (128,512 or 38.6 % of the lowland population) and in terms of number of languages (11). Campa is the collective term traditionally used for the closely related Arawakan foothill languages Asháninka, Ashéninka, Nomatsiguenga, Campa Caquinte and Machiguenga, of which the first four are quite vital, Asháninca even being the third most spoken indigenous language of Peru after Quechua and Aymara. The Ashéninca population and number of speakers are not mentioned separately in UNESCO (2009) nor in Solís (2009) and may be included in the high totals given for Asháninca. Based on dialect differences, the following Ashéninca subgroups are distinguished: Campa del Pichis, Campa del Perené, Campa del Alto Ucayali, Campa del Gran Pajonal, and Campa del Apurucayali. There are about 20,000 speakers out of an ethnic group of the same size. Machiguenga is losing out to Spanish and Quechua and children no longer acquire the language. Nanti seems to be closely related to Machiguenga and, therfore, should be included in the Campa subgroup. Yanesha' (Amuesha) is heavily influenced by Quechua and old varieties of Quechua I, es-

pecially phonologically and lexically. Even though the 1993 census gave a population number of 6,980, the group probably comes to approximately 10,000 Yanesha'. In some areas (Lower Palcazú) children no longer acquire the language, while they still do in other areas (Upper Perené and Upper Palcazú). Like many other groups, the Yine (Piro) suffered greatly during the rubber boom at the turn of the twentieth century. The Summer Institute of Linguistics (SIL) has been involved in establishing bilingual schools in Yine communities since 1953. Today there is a bilingual education program in the communities on the Urubamba River. The three Arawakan languages Chamicuro, Iñapari, and Resígaro are moribund. Chamicuro is relatively isolated within the Arawakan family and some years ago it was thought to be on the brink of extinction with only two elderly speakers, but fortunately eight speakers were located in 2008. In 1998, SIL reported four Iñapari speakers over 45 years of age living on the Río de las Piedras. Apparently the family of these speakers had fled from Bolivia in the early twentieth century from a land owner who had captured the entire group apart from them, and taken them off to Santa Cruz or some other place in Bolivia (Lev Michael p.c. 2010). The Resígaro group seems to have dissolved within the Bora and Ocaina communities with whom they settled. The language, which is heavily influenced by Witotoan, is moribund with only two speakers left (Frank Seifart p.c. 2009).

The second largest language family in the northern Peruvian Amazonian rainforest is **Jivaroan** (79,871 or 24 % of the lowland population), represented by three relatively stable languages: Achuar-Shiwiar, which has a high percentage of monolinguals, and the mutually intelligible languages Awajún (Aguaruna) and Huambisa.

Both branches of **Pano-Tacanan** are represented in Peru. **Panoan** is represented by no less than nine extant languages in Peru and with a population of 30,409 (9.1 % of the lowland population) it is the fourth largest family in the Peruvian Amazon. Six out of the nine languages are so-called cross-border languages. The number of speakers of Amahuaca and Capanahua are not clear. Only in the most distant Amahuaca communities do children still acquire the language and Capahuana children generally no longer acquire the language: only about one third of the children have passive knowledge of Capahuana. The languages of the Cashibo-Cacataibo, Cashinahua and Matsés are maintained to a high degree and intergenerational transfer still takes place. In 1984, the voluntary isolation of the Nahua ended, when four Nahua were captured by loggers. They were taken to Sepahua, a town nearby, and later sent back to their villages. As a consequence, a year later over 50 % of the Nahua had died from colds and other respiratory diseases introduced by this first contact. A group of Yaminahua that had been contacted 20 years earlier – and whose language is quite similar to Nahua – facilitated further contact with the Nahua. Having assimilated to *mestizo* culture, the Sharanahua have dropped many of their customs, including their traditional celebrations, music and dances. Nowadays they speak their language exclusively in their homes. The Shipibo-Conibo form the third biggest group in the Peruvian Amazon and despite many

years of contact and their proximity to the city of Pucallpa, they have succeeded in preserving their language and culture. The Yaminahua suffered greatly during the rubber boom at the beginning of the twentieth century, during which time 50–70 % of the Yaminahua population perished from contagious diseases and epidemics (Townsley 1994: 262). According to Townsley (1994), the Yaminahua, Nahua, and Sharanahua are closely related and should be considered as a single ethnic group that history separated by chance. The Waripano used to live in the Loreto department among the Shetebo who speak a dialect of Shipibo-Conibo. Today the language appears to be extinct, since the last known speaker died in 1991. Ese Ejja is the only Pano-Tacanan language of the **Tacanan** branch in Peru and the only Tacanan language spoken outside Bolivia. The 1993 census gave a total of 782 Ese Ejja, whose language is still relatively vital in Peru (more in Bolivia), since all the children acquire the language as long as their mother is Ese Ejja.

The **Zaparoan** family, consisting of three extant members, is in a very gloomy state. The Andoa-Shimigae have shifted to Quechua and, as a consequence, their language is moribund with only two speakers left. Arabela is seriously endangered with about 50 speakers out of an ethnic group of 500. Recently small groups of Ecuadorian Záparo have been going into Peru to contact their relatives, the Arabela. In the 1930s and/or 1940s, the Arabela were held as forced laborers on an Ecuadorian farm along the Curaray River. The Arabela who are nowadays in Peru succeeded in escaping, but a small group stayed on in Ecuador. Iquito is seriously endangered with 25 fluent speakers, all over 60 years of age, and another 25 passive speakers, all over 30 years of age. SIL reported five speakers of Cahuarano in 1975, but today the language is probably extinct.

Witotoan is also represented with three languages in Peru: Huitoto (Witoto), Ocaina, and Bora. The Huitoto who live in Peru today descend from a group of Huitoto that had been forced to move from Colombia to Peru during the rubber boom at the beginning of the twentieth century. During that period they worked for the rubber company Casa Arana and, therefore, not only became one of the most hated groups, but also one of the most decimated indigenous groups in the Amazon due to the atrocities committed by the same Casa Arana. In Peru, children do acquire Huitoto, but many of them do not use the language. At the end of the nineteenth century, the Witotoan family, to which Ocaina belongs, was estimated to be over 50,000 people. During the rubber boom many were slaughtered and all were exposed to the white man's diseases. By the first decade of the twentieth century only 7,000–10,000 had survived, among them 2,000 Ocaina. Originally living in Colombia, many Ocaina were transported by landowners during a border dispute between 1930 and 1935 across the Putomayo River into Peru. As a result of mixed marriages with Bora and Huitoto (Murui), and because of the spreading castellanization, Ocaina speakers have been switching to Bora, Huitoto and Spanish. Bora together with Miraña forms the **Boran** branch of Witotoan. The mean age of the youngest speakers is 25–35, and although there are bilingual primary and second-

ary schools, unfortunately, the classes are generally taught in Spanish. Nevertheless, there still is a strong linguistic awareness among the Bora. The 1993 census registered a total of 883 Bora, but the group includes an estimated 2,000 speakers out of an ethnic group of 3,000 (more in Colombia and Brazil).

A number of families only have two members in Peru: **Cahuapanan**, spoken in the northeastern Peruvian Amazon by the relatively big group Shawi (Chayahuita) and the small Shiwilu (Jebero) group, whose language is seriously endangered; **Tucanoan**, represented by Orejón and Secoya; and **Tupí-Guaranían**, represented by Cocama-Cocamilla and Omagua. During the rubber boom at the turn of the twentieth century the Tucanoan Orejón, who now prefer to be called Maihuna (Lev Michael p.c. 2009), experienced great suffering and the loss of many lives. The younger generation has abandoned the language and most of the Orejón culture. In 1941 the Secoya were separated by a war between Ecuador and Peru that divided the Secoya homelands. Their culture and ancestral lands are now imperiled by geopolitical borders, the encroachment and harassment of the petroleum companies, and the impact of colonization. As mentioned, two Tupí-Guaranían languages are spoken in Peru. The speakers of Cocama-Cocamilla have practically all switched to *castellano sharapa*, the variant of Spanish that is spoken in the jungle. The youngest speakers are all over 40 years old, and, in Peru, the language is seriously endangered with about 250 speakers out of an ethnic group of more than 10,000. Until recently it was thought that Omagua speakers above 40 years of age used to understand their parents, but no longer speak the language themselves. According to Lev Michael (p.c. 2010), however, in Peru only two speakers still remain today (possibly more in Brazil).

Four families are each represented by a single language: **Arawan**, **Harakmbut-Katukinan**, **Hibito-Cholonan**, and **Peba-Yaguan**. The Arawan Madija (Culina) community has very little contact with speakers of Spanish and are often visited by Brazilian merchants. All children acquire the language and only about 10 % speak some Spanish. Harakmbut is the only language in Peru from the Harakmbut-Katukinan family. Based on dialect differences the following subgroups are distinguished: Amarakaeri, Toyoeri, Wachipairi, Arasaeri, Pukirieri, Kisamberi, and Sapiteri. Most children acquire the language. Adelaar (2000) postulates a genetic relationship with the Brazilian Katukinan family with a possible further connection to Macro-Gê. Yagua is the sole surviving language of the Peba-Yaguan family, which consisted of three additional languages: Peba, Masamae, and Yameo. Children who live near the big "mixed" villages usually no longer acquire Yagua, but those that live in more isolated areas still do at a very young age. The 2003 census gives a population number of 3,487, but the group is probably bigger. Cholón, until recently the sole surviving language of the Hibito-Cholonan family, is related to Hibito, which was spoken in the same area and became extinct in the nineteenth century. SIL reported two speakers in 1986, but today the Cholón language appears to be extinct.

The following four isolates are still spoken in Peru today: **Candoshi**, **Munichi**, **Ticuna**, and **Urarina**. Candoshi is the last surviving member of the linguistically important Murato or Chirino family, which extended into Ecuador. Although language use is still vigorous, the group is seriously threatened by a hepatitis B infection that has gone unchecked since 2000. According to SIL (1988), only three speakers of Munichi remained and the language was thought to be on the brink of extinction, but in 2008 eight speakers were located. Ticuna is a cross-border language, which is also spoken in Colombia and Brazil. Although many of the Ticuna in Peru are learning Spanish, Ticuna is still used at home and in public. The Urarina are to be found in the Loreto department on the Chambira, Urituyacu and Corrientes rivers, where they have lived for at least half a millennium, remaining relatively isolated due to the remoteness of their settlements and by choice. Despite all sorts of challenges to their cultural survival, language use in still vigorous in the group. **Vacacocha** (Aushiri) is an isolate, considered extinct until recently, because all speakers had shifted to Quechua. In the 1930s there were about 25 Vacacocha in the area of Lake Vacacocha and another group of 30–40 in the region of the Tiputini River (Shiripuno River, Ecuador). In 2008, however, the American linguist Lev Michael located a semi-speaker of Vacacocha in Puerto Elvira on the Napo River. Another speaker apparently lives near Iquitos.

The two extant unclassified languages, finally, are Mashco and Taushiro. The Mashco form an uncontacted group that has been sighted regularly since the 1960s. Yine attempting to contact the Mashco on the Río de las Piedras claim that they speak a language closely related to Yine. The size of the ethnic group and, therefore, the number of speakers is still unknown. In the 1950s there still were some 50 speakers of Taushiro; by the 1960s this number had been reduced to 30. Due to an epidemic disease in the same decade and to the fact that most survivors have intermarried with non-Taushiro speakers and have adopted Spanish or a variety of Quechua, the language is now on the brink of extinction with 1 speaker out of an ethnic group of 20. Aguano and Culle are two unclassified languages that are already extinct. In 1959 the Aguano ethnic group consisted of 40 families in Santa Cruz de Huallaga who no longer used the Aguano language. According to Ruhlen (1987), Aguano is the same language as Chamicuro (Arawakan), which is contradicted by Chamicuro speakers. The last known groups of Culle speakers were located in 1915 in the province of Pallasca in the extreme north of the Ancash department, in the village of Aija near Cabana, and in the 1950s in Tauca.

It is estimated that there are at least 15 uncontacted tribes living in remote areas of the Peruvian Amazon Rainforest. These include the Tagaeri, Taromenane, uncontacted Matsés, *Cabellos Largos*, Cashibo-Cacataibo, Isconahua, Murunahua (Chitonahua), Mashco, Kugapakori, Nahua, Machiguenga, Mastanahua, Nanti and Yora tribes. After Brazil, Peru has the largest number of uncontacted tribes and people living in isolation in the world (Pantone 2008).

Table 13. Indigenous languages of Peru

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Madija (Madiha, Kulina, Kurina)	ARAWAN	300	300	Endangered	BR
Asháninca (Asháninka)	ARAWAKAN	88,703 (2007)	88,703	Potentially endangered	
Ashéninca (Ashéninka, Axininca, Ashéninca Pajonal)		20,000	20,000	Potentially endangered	
Campa Caquinte (Poyenisati)		500	500	Endangered	
Chamicuro (Chamekolo)		126 (1993)[55]	8 (2008)	Moribund	
Iñapari		68 (1993)	4 (1998)	Moribund	
Machiguenga (Matsiguenga, Matsigenka, Niagantsi)		8,679 (1993)	5,000	Endangered	
Nanti (Cugapacori, Kugapakori)		450	450	Endangered	
Nomatsiguenga (Inato, Ina'o, Inthome, Intsome)		5,531 (1993)	5,531	Potentially endangered	
Resígaro		14 (1993)	2	Moribund	
Yanesha' (Amuesha)		10,000	8,000	Potentially endangered	
Yine (Piro, Apurinã, Yinerï Tokanï)		2,553 (1993)	2,553	Potentially endangered	
Aymara	AYMARAN	434,372 (2007)	<434,372	Potentially endangered	
Cauqui		?	9 (2005)	Moribund	
Jaqaru (or Cauqui)		3,000?	725?	Endangered	
Shawi (Chayahuita)	CAHUAPANAN	21,424 (2007)	14,000	Endangered	
Shiwilu (Jebero, Xebero)		642 (1993)	<30	Seriously endangered	
Harakmbut (Harakmbut Hate, Harakmbut Ate, Amarakaeri)	HARAKMBUT-KATUKINAN	1,206 (1993)	1,206	Endangered	
Cholón (or Seeptsá)	HIBITO-CHOLONAN	?	2 (1986)	Possibly extinct	
Achuar-Shiwiar (Shiwiar-Maina)	JIVAROAN	2,500 (2008)	2,500	Endangered	EC
Awajún (Aguajún, Ahuajún, Aguaruna)		55,366 (2007)	55,366	Potentially endangered	
Huambisa		8,000	8,000	Potentially endangered	
Amahuaca (Ameuhaque, Amaguaco)	PANO-TACANAN, PANOAN	247 (1993)	100?	Seriously endangered	BR
Capanahua (Capabaquebo, Kapanawa, Capacho)		275 (2006)	100?	Seriously endangered	
Cashibo-Cacataibo (Uni)		2,191 (1993)	2,191	Endangered	
Cashinahua (Caxinahua, Kaxinawa, Hantxa Kuin,)		957 (1993)	957	Endangered	BR

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Matsés (Matsés-Mayoruna, Mayoruna)		2,500	2,500	Endangered	BR
Nahua (Yura, Yora, Yurahahua)		450	450	Endangered	BO
Sharanahua (Marinahua, Mastanahua, Parquenahua)		438	<438	Endangered	BR
Shipibo-Konibo (Shipibo-Conibo, Shipibo)		22,517 (2007)	22,517	Endangered	
Wariapano (Huariapano, Panobo)		?	–	Probably extinct (1991)	
Yaminahua		400	400	Endangered	BO, BR
Ese Ejja (Huarayo, Guarayo, Chama)	PANO-TACANAN, TACANAN	782 (1993)	782	Endangered	BO
Yagua (Yawa, Iahua)	PEBA-YAGUAN	5,000	4,000	Endangered	CO
Quechua (all dialects)	QUECHUAN	3,262,137 (2007)	<3,262,137	Potentially endangered	EC, BO, CH, AR
Orejón (Maihuna, Coto, Payagua, Tutapi)	TUCANOAN	300	100	Seriously endangered	
Secoya (Siona-Secoya)		329 (1993)	329	Endangered	EC
Cocama-Cocamilla (Xibitoana, Huallaga, Pampadeque)	TUPÍAN, TUPÍ-GUARANÍAN	10,705	1,000	Seriously endangered	CO, BR
Omagua		630 (1976)	2 (2010)	Moribund	BR
Huitoto (Witoto)	WITOTOAN, WITOTOAN PROPER	3,000	1,000	Endangered	CO, BR †?
Ocaina		150	50	Seriously endangered	CO
Bora	WITOTOAN, BORAN	3,000	2,000	Endangered	CO, BR
Andoa-Shimigae	ZAPAROAN	?	2 (2008)	Moribund	EC
Arabela (Chiripuno)		500	50 (2001)	Seriously endangered	
Cahuarano (Cahuarana)		?	5 (1975)	Extinct	
Iquito (Amacacore, Quiturran, Puca-Uma)		500	25–50	Seriously endangered	
Candoshi (Candoshi-Shapra)	ISOLATE	1,586 (1993)	1,586	Endangered	
Munichi (Muniche)	ISOLATE	?	8 (2008)	Moribund	
Ticuna	ISOLATE	8,000	8,000	Potentially endangered	BR, CO
Urarina (Kacha Ere, Shimacu, Itucale, Cimarrón)	ISOLATE	2,000 (2003)	2,000	Potentially endangered	
Vacacocha (Aushiri)	ISOLATE	?	2? (2008)	Moribund	
Aguano	UNCLASSIFIED (ARAWAKAN?)	–	40 families (1959)	Extinct	
Culle (Culli)	UNCLASSIFIED	–	– (1950s)	Extinct	
Mashco (Mashco-Piro)	UNCLASSIFIED	200–600	200–600	Endangered	BR
Taushiro (or Pinche)	UNCLASSIFIED	20	1 (2008)	Moribund	

The official languages of Peru are Spanish and, according to the Peruvian Constitution of 1993, indigenous languages, such as Quechua and Aymara, and other indigenous languages in areas where they predominate. About 80.3 % (2005) of the total Peruvian population speak Spanish today, and the language is used by the government, in an educational context, by mass media, and for publicatary and comercial means. At the same time there has been an increasing and organized effort to teach Quechua in public schools in the areas where Quechua is spoken. While the use of Spanish has increased, the knowledge and use of Quechua, Aymara and the other indigenous languages has, however, decreased considerably during the last four decades. Quechua is still by far the most spoken indigenous language today.

3.9. Venezuela[56]

The 2001 Venezuelan census[57] registered 536,863 Indians, i.e. 2.3 % of the total population. Furthermore, the census established that 33.3 % of this poulation (178,343) live in indigenous communities in rural and forested areas along the Venezuelan land and maritime borders. Mattei Müller (2009: 480), among others, points out that the following eight groups make up more than 88 % of the indigenous population of Venezuela: the Wayuu (Guajiro), Warao, Pemon, Kari'ña, Hiwi (Guahibo), Piaroa, Yanomamï, and Añu (Paraujano). This implies that the remaining groups are either small or very small and, therefore, very vulnerable from a cultural and linguistic perspective.

Table 14 gives an overview of the 36 extant languages belonging to the seven language families represented in Venezuela; moreover, there still are six extant language isolates.

In terms of speakers **Arawakan** is by far the largest language family in Venezuela today. Unfortunately this does not imply an overall viability of the languages in the family. Of the 11 Arawakan languages listed in Table 14 only 8 are still spoken today in Venezuela. The Wayuu (Guajiro) in the northwestern border area with Colombia are by far the biggest group, representing 54.72 % of the total indigenous population, and although most Wayuu are bilingual in Spanish, they still successfully pass their language on to their children. Wayuunaiki (Guajiro) is one of the most vital indigenous languages spoken in Latin America today. Other relatively vital Arawakan languages spoken in Venezuela include Kurripako and Piapoko. Until the 1960s the Baniva (del Guainía) lived in their traditional settlements on the Guainía and Atabapo rivers, but today the majority of the group has migrated to Puerto Ayacucho, which has led to rapid acculturation and language loss. The language is very similar to Yavitero. Of the four remaining extant Arawakan languages two are seriously endangered and two moribund. It is not known how many speakers there are in the Lokono ethnic group of about 428 persons. Apart from the Lokono language, Lokono speakers usually speak Spanish and English as well. Warekena is considered to be a dialect of Baniva (del Guainía). It

is not exactly known how many speakers are left in the ethnic group of slightly more than 500 members (more in Brazil). The speakers are all over 50 years of age and bilingual in Spanish, some of them even speakers of three or four languages, a regional phenomenon that can often be observed. Añu (Paraujano) is closely related to Wayuunaiki (Guajiro), but the language is moribund with only approximately 20 speakers left, most of whom speak Spanish and Guajiro as well. Baré is the most deviant of the Arawakan languages spoken in Amazonas state and, and, although the 2001 census registered 239 Baré bilinguals in Spanish, the language is probably just spoken by a few elders. Achagua, seriously endangered in Colombia, is today extinct in Venezuela. Mandahuaca is sometimes considered a dialect of Baré. It is not clear how big the ethnic group is, since the figure of 3,000 that used to be cited (e.g. Gaceta Indigenista 1975) probably included Baré, Baniva, and Mandahuaca. It is possible that today the language is extinct in Venezuela and it probably became extinct in the 1990s in Brazil, where speakers have shifted to Nheengatu (Ñengatú). Yavitero is possibly extinct with only one known elderly female speaker earlier (Mosonyi and Mosonyi 2000). It is not clear how many persons are still left in the ethnic group, which suffered from violent extermination practices in the 1930s.

More than half of the languages of the **Cariban** family are spoken in Venezuela. The family is represented by 10 extant languages, of which the four languages Yukpa, Pemon, E'ñepa (Panare), and Ye'kuana are relatively vital. Yukpa (called Yuko in Colombia) constitutes the only surviving Cariban language in the west of Venezuela, in the northern part of the Sierra de Perijá, on the border with Colombia. Most adults are still monolingual, but the younger generation is becoming progressively bilingual in Spanish. The language can be subdivided into three dialect groups: Macoíta, Irapa, and the more divergent dialect Japrería, which lately has been considered to be a separate language. With approximately 27,157 persons, the Pemon form the biggest Cariban group in Venezuela. This Cariban subbranch can be divided into three dialect subgroups: Arekuna, Taurepang, and Kamarakoto. Some of the adults are still monolingual, but the younger generation is becoming bilingual in Spanish. About 85 % of the population still speaks the language. Up to a few years ago the E'ñepa (or Panare) only had had few contacts with the outside non-indigenous world, but recent invasions into their territory by *criollo* settlers have led to growing bilingualism in Spanish among the speakers. Nevertheless, the percentage of E'ñepa monolinguals remains high (80 % in 2001). Although the Ye'kuana live in direct contact with the Sanïma (Yanomaman), approximately 95 % of the ethnic group still speaks the language. While children and youngsters are now becoming bilingual in Spanish, most adults and elders hardly speak any Spanish. Akawayo, Patamona, and Ingarikó belong to the Cariban subbranch Kapon, which in turn is closely related to Pemon and Macushí. With no more than 245 members in the Akawayo group and only 200 Patamona, these languages are to be considered endangered in Venezuela.[58] The Kari'ña are one of the

groups that are in closest contact with the urban society of Caracas. Especially during the last decades they have been subjected to an intense acculturation process, which in turn has resulted in considerable language loss among younger generations. A considerable number of the approximately 11,140 members of the ethnic group still do speak Kari'ña, but, since this is less than half of the group and since due to the lack of intergenerational transmission 80 % of the children between five and nine years old exclusively speak Spanish, the language has to be classified as endangered in Venezuela. Chaima, Kumanogota, and Piritugoto are three seriously endangered languages that were not included in the 1992 census, but further research is necessary to establish the degree to which these languages are still spoken and their exact classification within the Cariban family. Yabarana has two divergent dialects: Guaiquiare and Orechicano. The Yabarana have been partially assimilated by the Piaroa and Mako in the multi-ethnic village of San Juan de Manapiare, where – apart from Yabarana – Piaroa, Mako, Hiwi, Puinave, Baré, Ye'kuana, and E'ñepa (Panare) live together (Mattei Müller 2009: 492). Due to this assimilation process, the language is to be considered seriously endangered. The 2001 census also registered 12 speakers of Mapoyo, but in this case there are probably actually less than a handful of semi-speakers left. In 1998 the last elderly female speaker of Pémono lived with the Yabarana in an Upper Majagua village, but the language may be extinct today.

Today Barí (Motilón) is the only **Chibchan** language still spoken in Venezuela. The Barí live in Zulia, in the southern zone of the Sierra de Perijá, bordering on the Yukpa territory in the north and the Catatumbo River in the south. Since they only came into contact with national society on a regular basis a little more than three decades ago, a significant part of the ethnic group of about 1,520 members (1992) is still monolingual. SIL mentions a few Tunebo in Apure, but these have never appeared in census data and no further data are available.

Guahiboan is represented with three languages in Venezuela: Kuiva, Hiwi (Guahibo, Sikuani), and Pepojivi. The small Kuiva group is to be found in Apure state. Most Kuiva still speak the language and 6–7 % of the population is even monolingual. The Hiwi, called Sikuani in Colombia, live in northwest Amazonas state in several settlements along the Orinoco River. More than 80 % of the population still speaks the language. Pepojevi most probably is a dialect of Hiwi and is spoken by some 200 individuals in the western zone of Apure state, to the north of the Arauca River.

Sáliba-Piaroan is spoken by the Mako and Piaroa on the Middle Orinoco, which forms a natural border between Venezuela and Colombia, and by the Sáliba on the northwestern savannas on the left bank of the Orinoco. While most Mako and Piaroa still speak their native languages, Sáliba is seriously endangered with only 36 speakers out of a group of 265. Mako has been considered a dialect of Piaroa (Migliazza 1985), and the genetic relationship between Piaroa and Sáliba remains putative and needs to be investigated more thoroughly.

Yeral (Nheengatu) is a **Tupí-Guaranían-**based creole with heavy Arawakan and Portuguese influences, which was used as a lingua franca from the end of the sixteenth century onwards. Used by the Jesuits as a tool for catechization and colonization purposes, the language was spoken by the Kurripako, Baniva, Baré, Tucano, Warekena, Puinave (Wãnsöhöt), Hiwi (Sikuani or Guahibo) and Yavitero. Although today the language is barely spoken in Venezuela, about half of the "ethnic" Yeral registered in the 2001 census claimed to speak the language.

The **Yanomaman** family, found in southwestern Amazonas on both sides of the border between Venezuela and Brazil, consists of four quite similar and vital languages that are sometimes classified as a dialect continuum. Venezuela has more than 15,000 Yanomaman speakers,[59] divided over the four languages Yanomamï, Yanomae, Sanïma, and Ninam (Yanam), respectively. The 2001 census gave a total of 12,234 Yanomamï, which form by far the biggest Yanomam group. The population and number of speakers for Yanomae and Ninam remain unclear: while most Yanomae are on the Brazilian side of the border, a few Ninam communities move back and forth over the border. The total Yanomae group in Venezuela and Brazil amounts to about 4,000. The drastic changes in the contact situation and the mortality rate of the Ninam Indians during the last decades could bring about the extinction of the Ninam language within the next generation. In 1985 the population had already been reduced to half of what it was in 1970. Despite a reported 400 speakers in Venezuela and Brazil out of an ethnic group of the same size, the Yanam language is to be considered seriously endangered. The Sanïma live along the Ventuari river in Amazonas.

Today five language isolates are still spoken in Venezuela, of which the first three discussed in what follows are relatively stable. **Hodï** (Hoti) is spoken in the jungle area on the borderline between the Amazonas and Bolivar states. Although already mentioned by Koch-Grünberg (1913), the Hodï were not contacted by Westerners until 1961. In the past, genetic relationships have been postulated with Yanomaman, Cariban, and Sáliba-Piaroan, but these hypotheses have never been supported by factual data. Due to contact with national society, the majority of the **Pumé** (Yaruro) speakers manage Spanish quite well, but at the same time the language is maintained at a satisfactory level. **Warao** is spoken in the delta area of the Orinoco River (Amacuro state), extending also to Sucre and Monagas states in the west, and the Guyana border area in the east. The language has been documented extensively and has been taught at university level in the past decades. The other two isolates spoken in Venezuela are doing far worse. The **Uruak** (Arutani) live in two very isolated settlements in the Pacaraima mountain range and on the headwaters of the Paragua and Uraricoera rivers in the border area of Bolivar and Amazonas states. Most Uruak have intermarried with Yanam (Yanomaman), some with Pemon (Cariban), and a few with the Sapé of the Paragua River area. The language is seriously endangered with 29 speakers (90 % monolinguals) out of a group of the same size (2001) (possibly more in Brazil). The **Sapé** live in the Pemon area in

three settlements on the Paragua and Karun rivers in the border area of Bolivar and Amazonas states. The language is moribund with just a few elderly speakers out of a group of 20.

As pointed out in the section on Colombia, **Puinave** (Wãnsöhöt) has sometimes been linked to the Nadahup (Makúan) languages, postulating a Puinavean (or Makú-Puinavean) family. According to Lyle Campbell (p.c.), the evidence for this genetic relationship (Martins 2005: 331–341; Girón 2008: 428–433) is convincing. Puinave language and culture are maintained within the ethnic group, but bilingualism with Spanish is incipient. In view of the ongoing discussion Puinave has been listed in Table 14 as "unclassified".

Table 14. Languages of Venezuela

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Achagua	ARAWAKAN	–	–	Extinct	CO
Añu (Paraujano)		11,205 (2001)	20	Seriously endangered	
Baniva (Baníwa, Banibo, Baniva-Yavitero, Baniva del Guainía)		2,408 (2001)	608	Endangered	CO, BR
Baré		2,815 (2001)	239 / **few**	Moribund	BR
Kurripako (Curripaco, Wakuénai, Baniva-Kurripako, Baniwa del Isana)		4,925 (2001)	3,743	Potentially endangered	CO, BR
Lokono (Arhwak, Aruaco)		428 (2001)	130	Seriously endangered	GF, SU, GY
Mandahuaca (Mandawaka)		?	–	Possibly extinct	BR
Piapoko (Piapoco, Tsáçe)		1,939 (2001)	1745	Potentially endangered	CO
Warekena (Guarequena)		513 (2001)	160	Seriously endangered	BR
Wayuunaiki (Guajiro, Wayuu)		293,777 (2001)	293,777	Potentially endangered	CO
Yavitero (Baniva-Yavitero, Banibo)		?	1 (2000)	Possibly extinct	
Akawayo (Kapon)	CARIBAN	245 (2001)	180	Endangered	GY, BR
Chaima		4,084 (2001)	63	Seriously endangered	
E'ñepa (Panare, Mapoyo)		4,269 (2001)	4,184	Potentially endangered	
Kariña (Kariñá, Kari'na, Galibi)		16,686 (2001)	<5,000	Endangered	GF, SU, GY, BR
Kumanagoto		553 (2001)	49	Seriously endangered	
Makushi (Macushi, Makuxi)		83 (2001)	not known	Endangered	GY, BR
Mapoyo (Mapoio, Wánai)		365 (2001)	12	Moribund	
Patamona (Kapón)		200	200?	Endangered	GY, BR

Language	Genetic affiliation	Population	Speaker number	Degree of endangerment	Other countries
Pemon (Arekuna, Taurepan(g), Kamarakoto)		27,157 (2001)	23,083	Potentially endangered	GY, BR
Pémono		?	1	Possibly extinct	
Piritugoto		236 (2001)	50	Seriously endangered	
Yawarana (Yavarana, Yabarana)		292 (2001)	151	Seriously endangered	
Ye'kuana (Ye'kwana, De'kwana, Maquiritare, Maiongong)		6,523 (2001)	6,200	Endangered	BR
Yukpa (Yucpa, Japrería)		7,522 (2001)	<7,522	Potentially endangered	CO
Barí (Motilón)	CHIBCHAN	1,520 (1992)	1,520	Endangered	CO
Tunebo (Uwa-Tunebo)		?	?	Possibly extinct	CO
Kuiva (Cuiva, Cuiba)	GUAHIBOAN	454 (2001)	440	Endangered	CO
Hiwi (Jivi, Guahibo, Sikuani)		14,750 (2001)	12,000	Potentially endangered	CO
Pepojivi (Playero, Guahibo Playero)		200	200	Seriously endangered	CO
Mako (Wirú, Wirö)	SÁLIBA-PIAROAN	1,130 (2001)	most	Endangered	
Piaroa (Wothüha, Wotjüja, Wu'tjuja)		14,494 (2001)	13,000	Endangered	CO
Sáliba (Sáliva)		265 (2001)	36	Seriously endangered	CO
Yeral (Geral, Nheengatu, Ñengatú)	TUPÍAN, TUPÍ-GUARANÍAN	1,294 (2001)	650	Endangered	BR
Ninam (Yanam)	YANOMAMAN	?	?	Seriously endangered	BR
Sanïma (Sanema, Sanuma)		3,035 (2001)	3,035	Potentially endangered	BR
Yanomae (Yanomam, Yanomamë, Yanomama)		?	?	Potentially endangered	BR
Yanomamï (Yanoamï, Yanoamae)		12,234 (2001)	12,234	Potentially endangered	BR
Hodï (Hoti, Jodi, Ho)	ISOLATE	767 (2001)	767	Endangered	
Pumé (Yaruro)	ISOLATE	8,222 (2001)	7,400	Endangered	
Sapé (Kariana, Kaliana, Caliana)	ISOLATE	20 (2008)	few elders	Moribund	
Uruak (Arutani, Awake)	ISOLATE	29 (2001)	29	Seriously endangered	BR?
Warao	ISOLATE	36,028 (2001)	32,400	Potentially endangered	GY
Puinave (Wãnsöhöt)	UNCLASSIFIED	1,307 (2001)	550	Endangered	CO

The 1999 Constitution of Venezuela declared Spanish and all Venezuelan indigenous languages official languages. Among other political, social, cultural, and economic rights, the new constitution guaranteed Venezuela's indigenous groups intercultural bilingual education, healthcare that incorporates traditional medicine, and legal possibilities to fight for ancestral lands.

4. Discussion and conclusion

Leaving aside genocide, disease, and natural disaster, many factors play a role in the accelerated pace in which languages die out today. Three key concepts may be: encroaching Western society, socioeconomic interests, and globalization. Thus, the drastic decline in use and knowledge of indigenous languages in the last decades may be mainly attributed to recent demographic factors. In countries like Bolivia and Peru, the urbanization and assimilation of the indigenous peoples into the dominanant Hispanic culture, as well as new socioeconomic factors associated with class structure have favored the use of Spanish at the cost of the indigenous languages that were spoken by the majority of the population some times even less than a century ago.

Increased awareness among linguists of the enormous threat of massive language extinction has led in the past years to the description and documentation of endangered languages in many parts of the world, especially in South America. Apart from local initiatives, many European, American and Australian programs have led to the documentation of (seriously) endangered and moribund South American indigenous languages. As a result a number of surveys on languages spoken in specific countries have been published – Colombia: González de Pérez and Rodríguez de Montes (2000); Venezuela: Mosonyi and Mosonyi (2002); Bolivia: Crevels and Muysken (2009, 2011). However, the mere documentation of (seriously) endangered or moribund languages is not enough. As stressed by Grinevald Craig (1997: 270), linguists should combine salvage linguistics and archiving efforts with efforts at revitalizing or maintaining endangered languages.

In practice, national and local authorities should design policies and programs to safeguard the maintenance and growth of endangered languages and to protect and revive moribund/seriously endangered languages. However, the success of these enterprises depends entirely on the involvement and support of the communities concerned and the training of local linguists. Adelaar (1998: 13) points out that projects, such as executed by CCELA in Bogotá and the Museu Goeldi in Belém (Brazil) merit all the international support they can get. Recently a network of regional language archives in three South American countries has been established. Local archives for data on endangered languages have recently been set up in Iquitos (Peru), Buenos Aires (Argentina), and in Belém and Rio de Janeiro (Brazil). An important feature of these archives is that they provide fast and secure ac-

cess to linguistic and cultural data for local researchers and the language communities (see Seifart *et al.* 2008).

In many cases it is already too late to revive a language genuinely, for instance when a language has too few speakers or the speakers are too old, or when the younger generations are simply not interested in recovering their language, because they are too busy surviving. But even then the communities have a right to a – be it symbolic – token of their ancestral tongue. Nevertheless, given the right circumstances, there are possibilities to revive endangered languages, as exemplified by Modern Hebrew, a national language spoken by millions of L1 speakers today, and the only example of a language that has been revived after becoming extinct. Cornish, a Celtic language once spoken in part of the United Kingdom, was even revived after it had become completely extinct and is now spoken by many people as a second language. Another successful example of a language revitalization program is the "language nests" model developed by Maori in New Zealand. The so-called language nests are nursery schools set up by Maori elders and conducted completely in Maori. This model has been followed in Hawaii, Alaska, Finland, and numerous other places, and has been implemented in primary and sometimes even secondary schools. In California, the master-apprentice program was developed so that missing generations of young adult speakers could become proficient in their native languages and pass them on in communities with only few elders who are speakers. Hinton and Hale (2001) and Grenoble and Whaley (2006) provide a wealth of information on the topic of language revitalization, not only for linguists, anthropologists, and language activists, but hopefully also for indigenous community members who believe they should safeguard the future use of their ancestral languages, in spite of their gloomy state and predicted loss.

Notes

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2 Sources: National censuses and surveys, such as Carlin (forthcoming), the CIA World Fact Book (July 2009 est.), DANE (2005), FUNAI (2005), INDEC (2005), INE (2001), INE (2003), INEC (2001), INEI (2007), Insee (January 2008 est.). Note that the indigenous population numbers must have grown in the mean time, since they are based on census data from the past years, while the numbers for the total populations are based on 2010 data.

3 Even though practically all sources refer to "speakers", it is not clear – due to the continuous mix-up of population numbers with number of speakers – whether the mentioned 8.5 million Quechua mentioned in this case refer to the actual number of speakers or to the total number of the ethnic group.

4 Antoine Guillaume for Tacana and Maropa, and Simon van de Kerke for Leko.
5 Sources: Molina and Albó (2006), Crevels (2007), Crevels (2009).
6 ISO 3166–1-alpha-2 country codes: AR=Argentina; BO=Bolivia; BR=Braszil; CL=Chile; CO=Colombia; EC=Ecuador; GF=French Guiana; GY=Guyana; PA=Panama; PE=Peru; PY=Paraguay; SU=Suriname; VE=Venezuela.
7 Population of 15 years and older.
8 Speakers of 4 years and older.
9 Recent research (Adelaar 2008) has led to the belief that Chiquitano, thought to be an isolate until very recently, should also be included in the Macro-Gê stock.
10 Censo Indígena Rural de las Tierras Bajas (CIRTB).
11 Ley del Instituto Nacional de Reforma Agraria (INRA).
12 The community of Jasschaja (canton of Exaltación, province of Yacuma) forms an exception, since intergenerational transfer of the language still takes place there.
13 Tierra Comunitaria de Origin 'Communal Land of Origin'.
14 Organización del Pueblo Indígena Mosetén.
15 Programa de Educación Intercultural Bilingüe para la Amazonía (EIBAMAZ).
16 Programa Amazónico de Educación Intercultural Bilingüe (PAEIB).
17 Unidad de Educación Intercultural Bilingüe (U-EIB).
18 Confederación de Pueblos Indígenas del Oriente Boliviano (CIDOB).
19 Sources: INDEC (2005), Crevels (2007), Fernández Garay (2009). Figures in the "Speaker number" column in Table 3 concern population over the age of 5 years.
20 Note that the two Nivaclé dialects used in Argentina are both well represented by speakers in Paraguay.
21 Encuesta Complementaria de Pueblos Indígenas (ECPI) 2004–2005.
22 Ley nacional de "Política Indígena y Apoyo a las Comunidades Aborígenes" (ley 23.302).
23 Sources: FUNAI (2005), Crevels (2007), UNESCO (2009), ISA (2009).
24 Fundação Nacional do Índio 'National Indian Foundation', part of the Ministry of Justice.
25 Frentes de Contacto.
26 Also known as Makúan, which actually is an ethnic slur in the Vaupés region directed toward the Nadahup peoples by the River Indians as an extremely offensive insult (see Epps 2005: 9–10).
27 Sources: FUNASA (2006), Crevels (2007), ISA (2009), UNESCO (2009).
28 Including some Hixkaryana, Mawayana, Wapixana, Karapayana, Katuena, and Xerew.
29 Note that Aruá, Cinta Larga, Gavião, and Zoró are mutually intelligible.
30 FUNASA (2006) gives a total population of 15,682 for the Yanomaman family.
31 See Campbell (this volume), who gives Karirí and Kirirí as alternative names for Kipeá, one of the four Karirían languages, usually included in the Macro-Gê hypothesis (see Ribeiro 2002, 2011).
32 Sources: INE (2005), Crevels (2007), UNESCO (2009).
33 Corporación Nacional de Desarrollo Indígena 'National Corporation for Indigenous Development'.
34 CONADI gives a total of 70 Yahgan and 101 Kawésqar. The much higher numbers of the 2002 census may have to do with the same reasons as discussed in Section 2 for Bolivia.
35 Sources: Arango Ochoa and Sánchez Gutiérrez (1998) based on a 1997 projection of the 1993 Census by DANE, (2004) based on a 2001 projection of the 1993 Census by DANE; DANE (2005); Crevels (2007); UNESCO (2009).

36 According to Consuelo Vengoechea (p.c. 2010), there are about 200 Muinane living in forest settlements, of whom approximately 50 still speak the language. In recent years the armed conflict in Colombia has caused many Muinane to migrate to urban centers, but it is not clear how many of these migrants still speak Muinane.
37 The language is no longer spoken near non-indigenous villages.
38 Organización Nacional Indígena de Colombia 'National Indigenous Organization of Colombia'.
39 Data based on INEC (2001).
40 Sistema de Indicadores de Nacionalidades y Pueblos del Ecuador.
41 Confederación de Nacionalidades Indígenas del Ecuador (CONAIE).
42 Sources: Carlin (forthcoming), Forte (2000), and Crevels (2007).
43 Sources: Carlin (forthcoming) and Crevels (2007).
44 Sources: Carlin (forthcoming), Renault-Lescure (2009), and Crevels (2007).
45 The indigenous population has gown explosively since 1948, when it only amounted to 700 persons (Renault-Lescure 2009: 380).
46 Sources: DGEEC (2003), Melià (1997, 2009), and Crevels (2007).
47 The 2002 census makes a distinction within the Toba-Enenlhet group between the Toba (Enlhet-Enenlhet) and the Maskoy. While the Toba (Enlhet-Enenlhet) maintain their native language to a high degree (85 %), only 12 Maskoy still speak the language.
48 Melià (2009: 188) remarks that the Guaraní variety spoken by the Enlhet-Enenlhet groups – with the exception of Enxet – cannot simply be considered as "Paraguayan Guaraní", since it rather concerns an "Enlheticized" variety of Guaraní with distinct grades of variation.
49 In Paraguay, the Chorote language is referred to as "Manjuy" (Manjui), which, as pointed out to me by Lyle Campbell, is basically one of the three principal dialects of Chorote and the one mainly spoken in Paraguay. The three dialects are Iyo'wuhwa, Iyojwa'ja (Yohwaha), and Montaraz (Wikinawos, Manjuy). These dialects are reasonably divergent, and speakers maintain they have difficulty understanding speakers of the other dialects.
50 Speakers of 5 years and older.
51 Also mistakenly called "Guarayo".
52 Sources: Solís (2009); UNESCO (2009); Crevels (2007).
53 Note that this percentage is based of the criterion *lengua nativa aprendida* 'acquired native language'. This would imply that while only persons that speak an indigenous language are included, this does not say anything about their ethnicity.
54 Unfortunately I have not been able to get full access to all the data of the 2007 census, which means that information on demographics and numbers of speakers are largely based on the sources mentioned in footnote 52 and the 1993 *Censo de Comunidades Nativas* 'Native Communities Census'.
55 Note that the 1993 census only included persons of 5 years of age and older.
56 Sources Crevels (2007), INE (2001), Mattei Müller (2009), and UNESCO (2009).
57 The 2001 census (*XIII Censo General de Población y Vivienda*) comprised a General Census (*Censo General*) and a Census of Indigenous Communities (*Censo de Comunidades Indígenas*).
58 The number of Ingarikó in Venezuela is not known.
59 Approximately the same number of speakers are to be found in Brazil.

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Contacts between indigenous languages in South America

Pieter Muysken

1. Introduction

this chapter I will try to describe a few aspects of language contact in the history of the languages of the American Indian communities of South America. The topic of contacts between the indigenous languages in South America is vast and almost intractable. This is the case particularly because we still know little about the history of the languages of the continent, in the absence of essential sources of informatin, which include:

- historical sources dating back more than a few centuries
- reliable and complete descriptions for the majority of languages or major representatives of language families
- reliable family trees for a number of linguistic families
- reliable reconstructions of the features of potential ancestor languages

In quite a number of cases, perhaps the majority, we do not know whether a given instance of resemblance between two languages is due to contact or to shared ancestry. This difficult and complex state of affairs is illustrated by the fact that using reliable and tested techniques of historical reconstruction, we can distinguish around a hundred language families for the continent (cf. e.g. Kaufman 1990; Campbell, classification, this volume). At the same time, Joseph Greenberg (1987), using highly contested techniques of mass lexical comparison and relying on impressionistic observations about recurring features, argued that there is only language family. There are a number of "pan-Americanisms" (Kaufman 1990: 26), but they do not allow us to reliably create larger family units.

There are a great many sporadic observations about the contact between indigenous languages in South America in the literature, and few scholars active in the field would deny its importance, but no consistent picture has emerged as yet, nor is there an inventory, let alone a typology of contact phenomena in place.

In this paper I hope to achieve two things: (a) present some of the findings regarding language contact settings involving the indigenous languages in South America, largely (but not entirely) leaving aside here the contact with the colonial languages (Spanish, Portuguese, English, French, and Dutch); (b) sketch some of the most typical types of contact settings known at present, illustrating each one with one or two striking examples. These latter can then serve as proto-types, help-

ing us to discern the specificities and general features of other contact settings in the region as well, which may resemble them to a certain extent.

The specific types or proto-types of language contact that will be discussed in this paper are:

- Sub- and superstrate effects in imperial languages, illustrated with the Quechuan language family
- Symmetrical intensive bilingual contact, illustrated with the Quechuan-Aymaran relationship
- Dispersal languages, illustrated with the Arawakan language family
- Multilingual extended communities: illustrated with the Içana and Vaupés
- Lingua francas in the Tupían family, illustrated with Nheengatú
- Intertwined languages, illustrated with Kallawaya
- Languages resulting from incomplete shift, illustrated with Kokama
- Pluri-directional structural convergence due to prolonged coexistence, illustrated with the Guaporé-Mamoré area
- Shared lexical borrowings from dominant languages.

Some language families are a bit overrrepresented in this survey of proto-types, notably Quechuan, Arawakan, and Tupían. There are two reasons for this. First these families have a wide distribution and complex history, which has meant that members of these families underwent many forms of contact. Second, these families are relatively well-known, which makes it easier to detect contact phenomena involving their members. Surely many more complex contact situations will become unvealed as our understanding of the historical relations between the languages of South America increases. It was difficult to organize the material presented here, since certain special cases (Kallawaya, Kokama, Amuesha) could have been placed in other sections, involving several of the families discussed at the same time.

Before turning to the specific contact types, a number of remarks need to be made about the preconditions for studying language contact in South America.

First, I should mention that incidental word borrowing is something encountered throughout South America, as elsewhere in the world. We find many words shared by individual unrelated or not closely related language pairs; this is the rule rather than the exception, and sometimes the amount of shared, but unequivocably borrowed, vocabulary may be as high as a double digit.

In contrast, structural borrowing is by no means as frequent. In many regions in South America languages are spoken next to each other with widely different structural characteristics. By no means do all languages in the continent or in a specific region necessarily resemble each other structurally. Taking the maps in the *World Atlas of Linguistic Structures* (Haspelmath et al. 2005) as a point of departure, we see quite a bit of structural pluriformity, even though the continent is not

very well represented on most maps. Nonetheless, we do find a number of features that recur in a number of the languages of South America:

– complex verbal morphology
– agglutinative morphology
– head marking
– evidentials
– both nominal and verbal classifiers
– possession often marked on the possessed noun
– clause subordination through nominalization

These features may ultimately be due to diffusion or to genetic inheritance, and some are not logically independent.

Second, a methodological remark about the study of language contact in the South American context is in order. While language contact is extremely important if we want to explain the features of a number of South American indian languages, language contact studies can never, repeat never, replace careful historical genealogical research. It will become clear that only if we know a fair amount about the history of a particular language family that we can discuss the specific role of contact at all.

When we are studying the relation between two language isolates, it becomes extremely hard, if not impossible, to separate similarities due to contact from those due to shared ancestry. At this point the only possibility we have involves independently established principles concerning the likelihood that a certain element was transferred from one language to the other. Thus in the lexical domain, resemblances in cultural (e.g. numbers and names of edible foods) and ecological vocabulary (e.g. names of specific plants and animals) may be more likely to be due to borrowing than resemblances in the core vocabulary. In the grammatical domain, resemblances among the discourse markers may be more likely to be due to borrowing than resemblances in the pronominal system.

Third, Taylor (1999) stresses the fact that cultural and socio-economic resemblances between many Amerindian lowland communities at the turn of the second millenium are deceptive. The Amerindian communities were highly diverse in their structural complexity, size, and economic basis of subsistence at the time of the European invations, and only subsequently were reduced to the small and sometimes isolated communities encountered at present. Thus we cannot reason back from the present day sociolinguistic settings in indigenous communities to earlier scenarios of language contact.

Finally, Schwartz and Salomon (1999: 458) emphasize the tremendous amount of ethnic restructuring that has occurred in the wake of the European invasions, and probably long before. Sometimes this involved just a few ethnic groups that were

merged, but in part larger collectivities, as "former ethnic identities were overshadowed by a new collective identity originally imposed from outside". These new collective identities were sometimes associated with linguas francas that were part and parcel of the colonial regime, such as Nheengatú in Brazil and the regional variety of Quechua called Quichua in Ecuador.

Thus the European presence was not only responsible for considerable direct Spanish and Portuguese influence on the indigenous languages, but also for indirect influence on the types of language contact that the indigenous languages underwent in a more general sense. Thus the decision to exclude European influence in this chapter is to some extent an artificial one.

Taking these general points into consideration, I now turn to eight proto-typical forms of contact, illustrated with individual examples.[1]

2. Sub- and superstrate effects in imperial languages: Quechua

I will begin by sketching some of the dimensions of sub- and superstrate contact involving Quechua. This is the best known of the South American indian languages associated with a political unit larger than the ethnic group. Many scholars have tried to sketch the language situation in the Andes in the period since around 200 our era, trying to link linguistic, archeological, and ethno-historical evidence.

A core feature of Andean linguistic ecology in the last millenneum concerns Quechua in contact with other languages. A schematic overview of contacts involving Quechua is given in Table 1.

Quechua started out, probably, as a language spoken in the Andean range immediately east of Lima in central Peru. Probably Aymara was spoken in a neighboring area, and there is evidence for very early contacts between the two languages or language families (cf. Section 3). As it expanded throughout the central Andean region, Quechua came in contact with other languages as well, and may have undergone substrate influence from some of them, particularly in Ecuador, and possibly also in Bolivia. At the highpoint of Inca political power, just before the Spanish invasion, Quechua was spoken either as a native language or as a lingua franca from southern Colombia to northern Argentina and Chile. At the same time, languages spoken in the vicinity were influenced by Quechua, both in the pre-colonial period and after the invasion by the Spanish. I will briefly describe the various contact settings involving Quechua here, except for the contacts with Aymara, Puquina, and Kokama, which will be discussed in separate sections, and not discuss the complex relation between Quechua and Spanish, referring the reader to chapter 7 of Adelaar with Muysken (2004). More detailed information on the languages and language families involved likewise can be found in Adelaar with Muysken (2004).

Table 1. A schematic overview of contacts involving Quechua (Q)

Quechua in contact with	**Type of contact**	**Linguistic effects**
Aymara (cf. Section 3)	Various dominance relations in the course of history – coexistence	Extensive mutual lexical borrowing Aymara derivational affixes in Q Aymara phonological substrate
Uru-Chipaya	Qas a dominant neighboring language. Some communities have shifted to Q, others (in part) to Aymara	Q loans Possible calque in the pronoun system
Puquina (cf. Section 6)	Q as a dominant neighboring language, eventually a complete shift	Relexified secret ritual language Kallawaya
Shuar and Barbacoan	Q as a dominant neighboring language and as a trading language	*Shift:* *possible simplification of Q morphology in the lowland varieties *some Shuar and Barbacoan loans in flora/fauna *possible influence in local Q grammar features
		Maintenance: *some Q cultural loans
Kokama and Tupinambá (cf. Section 7)	Q as a lingua franca and trading language	Numerous lexical loans; some morphemes
Cholón	Q as a dominant trading language	Extensive Q lexical borrowing Borrowing of several Q affixes
Amuesha or Yanesha'	Q as a dominant/trading language	Extensive Q lexical borrowing Borrowing of grammatical elements
Others, such as Leco and Yurakare	Q trading language	Incidental Q cultural loans

The small Uru-Chipaya language family was widely spoken in hunting/fishing communities in the lake and river basin of the Peruvian/Bolivian altiplano, along the shores of the Titicaca and Poopó lakes and the rivers feeding into them and connecting them. The only place with a viable though small community of speakers is now Santa Ana de Chipaya, department of Oruro. There are a number of lexical

loans from Quechua, including some core vocabulary, some borrowed minor structural features, and the inclusive/exclusive distinction in the pronoun system appears to be calqued on the Quechua pattern. It should be noted, however, that the influence from Aymara, particularly in recent times, is much more extensive (Hannß 2007).

There are a few (in some local varieties perhaps more than a few) Quechua lexical borrowings in Shuar, such as the word for 'corn'; less well known is the possible contribution of Shuar to Quechua local (lowland) flora and fauna terminology.

The now extinct language Cholón was spoken in the upper Huallaga valley in northern Peru, north of the town of Tingo María. While the main source is a single 18th century manuscript, Alexander-Bakkerus (2004) provides a complete modern reconstruction on the basis of the available materials. Cholón has person prefixes, but in other respects it resembles Quechua and Aymara typologically, with a postpositional case system, SOV word order, etc. In addition to a number of Quechua lexical loans, it shares several affixes with Quechua: Ch *-pit* / Q *-pis*/*-pas* 'additive; indefinite'; Ch *-(a)l^{y}* / Q *l^{y}a* 'only'. Interesting is also that the Cholón system of exclamatives resembles that of Quechua, as the following examples show:

(1)	Quechua	Cholón	
	achacháw	*aha*	'damn!'
	alaláw	*alew*	'cold!'
	akhakáw	*uču, učuw*	'hot!'
	an^{y}an^{y}áw, an^{y}akáw	*an^{y}iw, aŋ*	'tastes good!, looks good!'
	atatáw	*ičay, ičakay*	'ugly, nasty!'
	achakáw	*al^{y}aw, atih*	'ouch!'

Even though the actual forms do not always correspond, the principle of construction is similar, suggesting close contacts in an early period.

The Amuesha or Yanesha', speakers of an Arawakan language, orginally lived in a region stretching from the department of Huánuco to the department of Junín, immediately west of Quechua speaking territories in the Andes of central Peru. Since the Cerro de la Sal (Salt Mountain) was located in their area, they had frequent contacts with traders looking for salt from all over. For several centuries contacts must have been intense even if now the Amuesha live further eastward in the Amazonian lowlands. Building on earlier work of Wise (1976), who definitely established both the Arawakan genetic affiliation and pointed to the influence of Quechua on the language, Adelaar (2007) has provided a detailed analysis of the layers of Quechua influence on the language. What makes the Amuesha case particularly complicated is that there is evidence not just of Arawakan and Quechuan linguistic elements, but of a third as yet unknown language as well. The latter is currently being investigated. In contrast with the influence on other languages spoken alongside of Quechua, the influence on Amuesha is not primarily from the

Quechua lingua franca associated with the Inca empire, but rather from the neighboring Quechuan dialects that are part of the so-called Quechua I cluster. There is phonological evidence that these loans are quite old. However, there are also a few loans, specifically referring to personal status terms, which must come from the Inca period.

Quechua loanwords cover all word classes and include a striking number (at least sixty) verbs, often with core meanings. Both Quechua noun and verb roots loose their final vowel in Amuesha. There are a few possibly borrowed suffixes in Amuesha, including *-kma* 'precisely', 'always', 'totally', 'of the same sex' (possibly < Q *-kama* 'until', 'distributive'), *-(V:)kop* 'referential', 'benefactive' (possibly Q *-paq* 'benefactive'), *-n^{y}a* 'intensifier', 'sequential' (possibly Q *-n^{y}a* 'already'), *-Vn^{y}* 'desiderative' (possibly Q *-na: / -naya* 'desiderative'), *-V:r* 'stative' (possibly Q *-ra(:)* 'stative'). The metathesis that we find in the Amuesha forms is independently motivated. In addition, there are a number of suggestive structural resemblances between Amuesha and neighboring Quechuan varieties in specific 'non-essential' constructions (Adelaar 2007: 309): the negation system, an apprehensive construction, an applicative reversal construction, subordination, double possessive marking. Altogether, however, Amuesha has not converged structurally with Quechua.

Its phonology, unusual both from an Arawakan and a Quechuan perspective (but partially resembling that of Cholón in the vowel elision rules in verb stems, and its partly untraceable lexicon suggest that the speakers of Amuesha originally spoke a different language and only later became Arawakanized. Needed is a detailed study of the grammatical system of Amuesha, the other Arawakan languages, and all neighboring languages, including Cholón, to see whether further insights can be gained.

Finally in languages such as Yurakare, borrowings are limited to elements such as *atalipa* 'chicken', *kuchi* 'pig' and *michi* 'cat' (the latter two themselves a borrowing from Spanish).

3. Intensive bilingual contact: the early Quechua-Aymara relation

The relation between Quechua and Aymara, or more appropriate between the Quechuan and the Aymaran languages, has long been an issue of often heated discussion. Orr and Longacre (1968) and, using more principled arguments, Campbell (1995) have argued for a common origin. Following Adelaar with Muysken (2004: 34–36), Heggarty (2005), and McMahon et al. (2005), I will assume that the evidence for a separate origin of Quechua and Aymara and intensive borrowing is stronger than that supporting a common origin. The (striking) evidence for the genetic link includes:

– the phoneme systems of the two language families are similar enough to allow for the reconstruction of a common proto-system (Orr and Longacre 1968);
– disregarding the large number of later borrowings between branches of the two families in both directions, about 20 % of the core vocabulary is shared;
– the morpho-syntax of both languages shows an uncanny resemblance on the level of the structural and semantic organization of the grammar (Cerrón Palomino 1994).

However, other factors militate against postulating a genetic unit:

– the phonotactic patterning and very specific vowel deletion rules characteristic of the Aymaran languages as a group are not found in Quechua;
– while 20 % of the words in the core vocabulary correspond between the two language families, 80 % do not at all;
– this is all the more surprising since the 20 % words are very similar if not identical in both language groups;
– there are very specific structural and semantic correspondences, but these do not extend to the actual shapes of the grammatical morphemes, which are all different;
– core parts of verbal inflection do not correspond;
– the semantic fields covered by a group of 150 specific culturally relevant lexical items do not overlap in the two language families.

Altogether, the scenario that best fits the data is that two possibly unrelated or only very distantly related languages coexisted in the same area, most likely central Peru, for a long time and profoundly influenced one another. One of the two probably was restructured in fundamental ways under the influence of the other language, and was remodeled on the basis of its morpho-syntactic patterns without taking over the actual grammatical morphemes associated with these patterns. Given its overall more complex phonotactics and more regular verbal and nominal person inflection, it is more likely that Aymara provided the model on the basis of which Quechua was restructured.

Apart from the early contacts that have affected both families in their entirety, there has been intensive subsequent contact between individual branches of the Quechuan and Aymaran families. The most striking effects are found in southern Quechua varieties. The Quechua of Cuzco and Bolivia probably has adopted the aspirated and glottalized stops in word initial position from Aymara (Mannheim 1991). Quechua dialects in the area of Arequipa and Puno (Peru) have adopted several Aymara verbal suffixes, inclusive of the accompanying vowel reduction rules (Adelaar 1987). In many areas of southern Peru and Bolivia there have been processes of language shift in rural communities from Aymara to Quechua (mostly) or from Quechua to Aymara.

4. Dispersal languages: Arawakan

A language family such as Quechuan was spoken in a more or less continuous area (interspersed, to be sure with pockets of speakers of Aymara, Puquina in southern Peru and Bolivia, and a few other languages in northern Peru and southern Ecuador). In contrast, the Arawakan languages are dispersed across a very wide region, spreading from Belize to Paraguay. Typically, many Arawakan languages or language clusters (such as the Campa branch) are surrounded by non-Arawakan languages. Ethnohistorically, the ancestors of the speakers of the Arawakan languages were associated with the archeologically defined Saladoid culture in the Orinoco basin (Allaire 1999: 696), ultimately introduced there perhaps from the Amazon basin.

For all Quechuan languages and language varieties, it can be unambiguously determined that they belong to the same family (the possible exception is the specialized ritual language Kallawaya (cf. Section 7). For Arawakan, this also holds on the level of basic verbal morphology, but the structural differences between the varieties are greater. Some Arawakan languages have become very different from Proto-Arawakan, at least morpho-syntacitcally.

Table 2. A schematic overview of contacts involving Arawakan languages

Language	**Arawakan in contact with**	**Type of contact**	**Linguistic effects**
Island Carib	Kariña / Kariña pidgin	Male conquest of female community; use of Kariña pidgin features	Gender differences in language use
Tariana	Eastern Tukanoan	Exogamous bilingualism	Extensive grammatical borrowing, cf. Section 5
Resigaro	Bora, Ocaina	Close contact in terms of dependency relations	Borrowing of nominal morphology and classifiers
Mawayana	Cariban	Language attrition in a minority setting	Borrowing of grammatical distinctions from majority language
Amuesha	Quechua	Long-term interethnic trading contacts	Extensive lexical and grammatical borrowing, cf. Section 2
Palikur	Cariban and unknown other languages	Possibly shift to Arawakan	Grammatical borrowing
Kokama	Tupinambá	Imposition of and shift to Tupinambá in a complex multi-ethnic setting	grammatical restructuring and borrowing, cf. Section 8
Wãnsöhöt (Puinave)	Makúan	Shift to a Makúan language by Arawak speakers	Grammatical restructuring

I will discuss these settings one by one.

A special case are the Garifuna, descendants of the Island Carib. Their history is a complex one, and involves Arawaks, Caribs, and descendants of African slaves. The Arawak Indians left Guyana, Surinam and Venezuela in the second century A.D., settling in the Greater Antilles. The Carib Indians left Orinoco Delta in the thirteenth century and conquered the Lesser Antilles. From the mixture of the Carib and Arawak the well-known but now extinct language Island Carib resulted. The descendants of the original mixed communities formed new communities on Saint Vincent. There a number of marooned slaves were adopted into the community. Finally the ensuing group, the Black Carib, settled off the coast of Honduras and then spread into Belize and Nicaragua. Hoff (1995: 50) argues that the contacts between the Kariña speaking Caribs and the Igneri speaking Arawaks took place in Kariña pidgin rather than full Kariña, which survived until the 20th century along the northern coast of the South American mainland. Characteristic of this pidgin was the use of formal marking on the verb of the transitive (*s-* prefix) / intransitive (*n-* prefix) distinction, which survived in Island Carib:

(2) a. *amoré* ***s****-ineri* *touna*
you TR-drink water
'You are drinking water.'

b. *amoré* ***n****-oboüi*
you INTR-come
'You are coming.'

The verb forms are in fact frozen nominalized Kariña verbs, which are used as main verbs in the pidgin.

Contacts between Mawayana and languages of the Cariban family such as Trio and Waiwai date from the last 150 years, as described by Carlin (2007). Remnants of Mawayana speaking groups were incorporated into a Trio (and partially also Waiwai) speaking village and became bi- or trilingual. As a consequence, Mawayana has adopted a number of obligatory Cariban categories: a first person plural inclusive/exclusive distinction, the category of nominal past, the category affective (pity), frustrative (in vain, almost, partly), and similative (to be like, but not quite). In contrast, it has lost its Arawakan gender system and the classifier system. Carlin argues (2007: 330) that there was "a clear resistance to the transfer of actual morphological forms but not to the transfer of structural categories". The morphological material required for the new categories is generally taken from the original languages.

Pa'ikwaki or Palikur is spoken by slightly over a thousand people in the border area of State of Amapá, Brazil, and French Guyana. The first historical records after contact with the Portuguese situate the Palikur slightly to the north of the mouth of the Amazon River. Since they became involved in conflicts between the

Portuguese and the French colonial powers in Cayenne, they were forced northward and subject to bad treatment by the Portuguese. The language has undergone a number of grammatical changes, without a clear source as far as is known at this moment.

Payne (1985) has established that the genetic classification of Resígaro is squarely within the Arawakan language family, in spite of the many elements shared with Bora that Allin (1975) had discovered. Aikhenvald (2001) has further analyzed the considerable influence from Bora on the language, pointing to the predominance of borrowed Bora classifiers in Resígaro. This influence is currently being further studied by Seifart (2006) and Wloczkowska (2006), partly on the basis of new fieldwork data. In Resígaro 24 % of the core vocabulary is of Bora origin, while there is no borrowing in the other direction. Resígaro has adopted a two tone contrast, a phonemic glottal stop, and syllable structure restrictions from Bora. In the pronominal system, it has adopted the inclusive/exclusive distinction in the first person plural through a Bora pronoun. Of the 56 classifiers in Resígaro, only 8 or 9 have an Arawakan etymology, and 36 are from Bora. Striking and highly unusual is that borrowing is limited to the nominal domain, and involves a high proportion of the nominal affixes and the pronouns. Except for animal names and nouns that can be used as classifiers, almost no other lexemes have been borrowed. Semantically, the domain into which there has been borrowing concerns unitization (through class markers), number, and quantity.

Wãnsöhöt (Puinave) has been studied by Girón (2007). He confirms the relation between Wãnsöhöt and Makúan, but suggests as a likely hypothesis to account for the extensive grammatical restructuring and non-Makúan vacobulary in Puinave an earlier process of shift to a Makúan language by Arawakan speakers. However, much more detailed comparison with Arawakan and other languages is needed to trace the possible roots of this language.

5. Multilingual extended communities: The Içana and Vaupés

Starting with the work of Arthur Sorensen (1967), it has been noted that the Içana and Vaupés river basin in Northwest Amazonia, on the border of Colombia and Brazil, is a region with extensive multilingualism and language contact. The results of this have been documented in detail by many scholars, including Jackson (1983) and Gomez-Imbert (1996) from the perspective of the Tucanoan languages, Aikhenvald (1996, 1999b, 2002) for the Arawakan languages, and Epps (2007) for the Makúan languages. The most likely scenario is that originally the relevant part of the region was inhabited by the Makúans, who were forest-dwelling semi-nomadic hunters, and that later the Tukanoans and the Arawakans arrived, in that order. These latter groups lived along the rivers and were agriculturalists. The Makúans remained in a subordinate position and their language and culture had very

little social prestige. They did not intermarry with the other two groups, but had extensive economic interchange relations with them. The Arawakans and the Tucanoans intermarried, due to exogamy restrictions, so that many children grew up multilingually. However, all three groups maintained their languages as separate entities, at least at the level of the lexical shapes and the morphemes (except for the existential verb *ni-*, which has spread across members of all three families); there is little lexical borrowing. The Arawakan language directly influenced by Tucanoan is Tariana, while of the Makúan languages, Hup has been affected, but a slightly more distant language, Dâw, much less and Nadëb not at all.

In the processes of structural and semantic change which has lead to the emergence of a linguistic area in the Içana and Vaupés river basins the Tucanoan languages have been the source of innovations in the Arawakan and Makúan languages. In other words, the change was unidirectional. Change involved a number of domains of the language. In phonology, nasalization, a particular pitch accent system, and a number of of segmental features have spread from the Tucanoan languages (Aikhenvald 1999b: 394–396; Epps 2007: 272–273). In the lexicon, particular features of the Tucanoan classifier system have spread to Tariana, while the Makúan language Hup is developing a Tucanoan-like classifier system, with inanimates classified on the basis of shape, and animates classified in terms of gender. Likewise, a particular organization of the numeral system has also been adopted by Hup and Tariana, as well as a split number system (based on animacy) and associative plural. A striking case of diffusion concerns the complicated Tucanoan five-way evidential system, into which tense, peson, and number markings are embedded. In addition, there is evidence for the spread of additional tense distinctions marked by particles. While sometimes the actual morphological realization differs in the three language families, there is also evidence of the spread of verbal compounding patterns, including the expression of causativity. In the case marking and alignment systems, Hup and Tariana have adopted typical Tucanoan features as well, e.g. in the system of animacy-based differential object marking, where human objects are always marked, animal objects depending on the degree of individuation, and inanimates are not marked. While the Makúan languages originally probably had a system of noun incorporation, it appears to be lost in Hup, and it does not occur in Tucanoan or Tariana either. All three languages frequently show verb final word order, again a feature spread from Tucanoan. The list given here, partly based on Epps (2007), could easily be extended.

Altogether it is clear that there has been systematic and profound, mostly unilateral, grammatical diffusion in the Içana and Vaupés river basins, but that it generally did not involve the transference of lexical items or language shift. Crucial is the link between ethnic (Tucanoan, Arawakan, Makúan) identity and language. In Tucanoan-Tariana relations this is instantiated through linguistic exogamy, and in Tucanoan-Hup relations through a long-term trading dependency relation.

6. Lingua francas in the Tupían family

The large Tupían language family is spread over much of the Amazon area, branching out into the Chaco with members of the well-known Tupí-Guaraní branch also spoken in Paraguay, Bolivia, and northern Argentina. While most of the languages in the family remained small languages of fairly isolated ethnic groups, a few members of the Tupí-Guaraní branch developed into linguas francas as a result of the Portuguese and Spanish colonization. The two best known ones are Nheengatú and Guaraní; the latter now functions as a national language in Paraguay.

Nheengatú (also called *língua geral* of Amazonia, or *lingua brasilica*) originated in the 17th century in what are now the states of Pará and Maranhão, as lingua franca on the basis of Tupinambá lexicon but with strong grammatical influence from Portuguese, also due to internvention by Jesuit missionaries (see also Moore et al. 1994). The original mixture was termed *ie'engatu* 'good language'. Around 1700 it was spoken in a large area in Brazil, as a contact language between whites and indians, but it lost some its support with the expulsion of the Jesuits in 1758.

Currently there are around 8,000 speakers in the area of the Upper Rio Negro, as well as in adjacent territories of Colombia and Venezuela. In one municipality, São Gabriel da Cachoeira, it has official status and is taught in schools. The first grammar of Nheengatú was written in 1556 (published in 1595) by father José de Anchieta. Its sister language in the colonial period was Língua Geral Paulista (in the state of São Paulo), a lingua franca which is now extinct. A text fragment from the Río Negro (cited from Taylor 1985) is given in (3) (with Portuguese items non-italicized):

(3) *yepé viagem paa pedro umunhã festa iwáka-kiti*
yepé viagem *paá pedro u-muñá* festa *iwàka-kití*
DT.IN time CIT Pedro 3s-make feast sky-DIR
They say that once Peter gave a feast in heaven.

ápe uconvidái panhe~ bicho usu-rã umaã tafesta
aá-pe u-convidá+*ri panhe* bicho *u-sù-ráma u-maã ta*-festa
that-LO 3s-invite all animals 3s-go-FIN 3s-see 3pp-feast
There he invited all the animals so that they could see their feast.

ápe paa jabuti *paa unhee~*: *"ti maye asu à-kiti*
aá-pe paá jabuti paá u-ñee ti mayé a-sú aà-kití
that-LOC CIT jabuti CIT 3s-say NEG like 1s-go that-DIR
Then the jabutí (tortoise) said: There is no way for me to go there.

ixe aputái amaã nhaã festa
ixé a-putári a-maã ñaã festa
I 1s-want 1s-see that feast
I want to see that feast.

ti aríku sepepu awewèu-rã
ti a-rikú se-pepú a-wewèu-ráma
NEG 1s-have 1p-wing 1s-fly-FIN
I do not have wings to fly.

àpe(-te) paa usasa icompadre urubu
aà-pe(-té) *paá* *u-sasá* i-compadre *urubu*
that-LO-EMP CIT 3s-pass 3p-friend urubu
At that moment his friend, the urubú (vulture), passed by.

"eh compadre!" unhee~ paa, "ti sera repodéi rerasu ixé asu-rã iwàka-kiti amaã festa
"eh compadre *u-ñee* *paá* *ti* *será* *re*-podé+*ri* *re-rasú*
eh friend 3s-say CIT NEG INT 2s-can 2s-take
ixé a-sù-ráma iwàka-kití a-maã festa
I 1s-go-FIN sky-DIR 1s-see feast
"Eh friend!" he said, "couldn't you take me up to the sky so that I can see the feast?"

"ah!" paa unhee~, "anhu~ resu kwá violão-kwàra-kiti"
ah paá u-ñee añu re-sú kwaá violão-*kwàra-kití*
ah CIT 3s-say only 2s-go this violin-hole-DIR
"Ah!" said <the urubú (vulture)>, "you can only go inside of the violin."

It is clear that a considerable amount of morphology has been retained in Nheengatú, but that it is quite transparent and regular.

While Nheengatú currently only has the status of a local language of a few groups in the upper Amazon, Guaraní has become a very important national language. Melià (2003), based on a Strasbourg thesis from 1969 by this expert on the language, reconstructs the development of Guaraní as the lingua franca of Paraguay in terms of the efforts by Jesuit missionaries to "reduce" the hitherto dispersed bands of indians into structured mission settlements, and similarly, to reduce the alien tongue of the infidels in terms of a writing system and systematic grammatical descriptions and ecclesiastical written materials. In Melià (1992) the continuities are stressed between the different varieties of Guaraní from the colonial past to the present day.

7. Intertwined languages: The case of Kallawaya

In the case of language intertwining, substantial portions of two languages are paired together, typically lexicon from one language and grammar from another one. The most well-known case of such a language involving to South American Indian languages is Kallawaya, a specialised ritual language, now almost extinct,

spoken by healers from Charazani in northern Bolivia. Recent analyses are given in Muysken (1997; 2009), Adelaar with Muysken (2004: 350–362), and Muysken (2009). In this language the structure of Quechua is combined with lexical elements from Puquina as well as from other languages in the region; there are also some lexical elements of unknown origin. Kallawaya in its current form is best seen as a case of paralexification (Mous 2003): the special lexicon of Kallawaya only appears when the people from Charazani perform healing rituals (and even there the data presented by Rösing [e.g. 1990] suggest that oftentimes healing rituals are performed with Quechua lexicon). In ordinary language use, only Quechua lexicon appears.

Although Puquina was once important enough to be rated as the third *lengua general* 'general language' of the Andes in the early colonial period, it rapidly lost its prominent status and is now extinct. It was spoken in and around the Peruvian/Bolivian altiplano, mostly in the area between Arequipa and Lake Titicaca, as far as can be ascertained from place names and ethnohistorical records. It appears that the Puquina-speaking region was overrun and split up, in pre-conquest times, by Aymara. Little is known of Puquina; the elements in its pronominal system suggest a relationship with the Arawakan language family, but lexically this has by no means been established. There are a number of Quechua and Aymara lexical loans in Puquina, and possibly some Aymara words are of Puquina origin.

As said, the structure of Kallawaya is almost entirely that of the local Quechua. The following example (cited from Oblitas Poblete 1968: 44) illustrates this:

(4) č'ana-*či-rqa-yki* isna-*pu-na-yki-pax*
call-CAU-PA-1S.2O go-RS-NOM-2S-BEN
'I had you called so that so you can go.'

The non-italicized elements are not from Quechua, but from Puquina, while all other elements are regular Quechua affixes.

While the verbal system by and large follows Quechua rules, in the nominal system a number of deviations occur. First of all, in some sources the markers for second and third person appear to be reversed from the Quechua system. Second, plural marking is not consistent, suggesting closer similarity to the Puquina system. Third, the way pronominal forms are used is also fairly close to Puquina, as far as can be ascertained.

8. Languages resulting from incomplete shift: Kokama

A number of languages in South America appear to be the result of incomplete second language acquisition in a process of shift. One example of such a language is Kokama-Cocamilla (also known as Kukama-Kukamiria or Kokama), an endan-

gered language spoken in the Peruvian Amazon (provinces of Loreto and Ucayali) by about 1500 people. According to Cabral (1995), the origin of Kokama must go back to the late pre-Columbian periuod, when a group of Tupinambá speakers migrated in the late 15th century from the Atlantic coast inland to the upper Amazon, and came in contact with speakers of one or more other languages, possibly Arawakan. Cabral argues that the large number of lexical elements shared with Tupinambá, coupled with an almost complete absence of shared morphological and grammatical features, and a number of phonological changes untypical of the Tupían family as a whole suggests that Tupinambá was learned as a second language, albeit imperfectly, by other groups, and that that Kokama cannot properly be classified as Tupían but rather has a mixed origin. Kokama morphology is extremely reduced, in comparison with that of Tupinambá. Tupinambá multi-morphemic words correspond to Kokama single morphemes (see also Vallejos Yopán 2010). Examples include:

(5) a.

Tupinambá	*Kokama*
a?e-pe	aepe
that-LOC	there

b.

e-i-pek	*epeka*
2IM-3-open	open

There is no allomorphy in Kokama, while the few corresponding Tupinambá forms have allomorphic variants. Vallejos (2005) argues, on the basis of new fieldwork data, that the suffixes in Kokama are all simple concatenative elements, and cannot be separated into derivational and infectional:

(6) *yaepe-tsui* *ajan* animaru-*pura-tu-anu* *ipu-ka*
there-ABL DEM animal-FOC-AUM-PL make.sounds-REI
'Afterwards, those big animals make noises again.'

(Vallejos 2005: 8)

The Kokama lexicon, as stated, is primarily of Tupinambá origin, but also contains elements from Portuguese, Spanish, Arawakan, Nheengatú, and Panoan origin. There are also a substantial number of Quechua words, including plant and animal names, verbs, adverbials, and numerals. Very interesting is that the Spanish verbs in Kokama appear with a Quechua perfective morpheme:

(7) regala-*ška* 'give'
lea-*ška* 'read'
sufri-*ška* 'suffer'

This morpheme appears to serve as a way of integrating Spanish verbs into the language, and may be the remnant of an earlier Quechua-based pidgin used in the upper Amazon (Crevels and Muysken 2005).

In Kokama there is no case marking on arguments and no verbal argument marking – subject and object are indicated through word order only. Clauses marked for tense are SVO or OSV, while clauses marked for aspect are mainly SOV. In the paradigms for person, number, and demonstratives there is speaker-oriented gender marking. The following examples show the contrast between Kokama (8b) and Tupinambá (8a) (Cabral 1995: 170) (PL = punctual locative):

(8) a. *syé yára o- I- me?éŋ piná isé -be*
my lord 3- 3- give hook 1 PL
'My lord gave the hook to me.'

b. *maría yúme manipyára ta cúpe*
Mary give hook 1 to
'Mary gave the hook to me.'

As further fieldwork data become available, the precise grammatical features, lexical roots, and morphological properties of this language can be investigated.

9. Pluri-directional structural convergence due to prolonged coexistence, illustrated with the Guaporé-Mamoré area

Reporting on still ongoing research, Crevels and Van der Voort (2007) argue that the Guaporé-Mamoré area, comprising parts of the Brazilian state of Rondonia and the adjacent Amazonian region of Bolivia, show many signs of linguistic convergence, in addition to shared cultural traits, between a great many unrelated or only very distantly related language families. The Guaporé and Mamoré are two great rivers of the Southwestern Amazon region. It is one of the world's linguistically most diverse regions, with over 50 languages representing seven different stocks (Arawakan, Chapacuran, Macro-Ge [Jabutían], Nambikwaran, Panoan, Tacanan, and Tupían) and 11 genetic isolates. In spite of the fact that these languages diverge enormously at the lexical level, they do seem to share a considerable number of structural features. In addition, we find considerable morphological borrowing in the Brazilian part of the zone. However, the structural features do not clearly distinguish the region from surrounding zones, as far as can be established using fairly standard gross characteristics, such as head-marking, nominal number, gender, evidentiality, classifiers, verbal classification, asymmetrical morphology, subordination through nominalization, and switch reference.

10. Shared lexical borrowings from prestige languages

While the phenomenon of lexical borrowing as such needs no special mention here, common as it is, the phenomenon of shared borrowings is strking and frequent in the region. What it involves is the adoption, in parallel or in a chain, of the same set of words, generally from dominant prestige languages.

The example given in Adelaar with Muysken (2004: 500–501) involves the Quechua word for 'chicken', *ata-wal^{y}pa*, which spread through 35 pre-Andine Amazonian languages, ranging from *óta* in Ticuna to *wa-tawah* in Amarakaeri. It is highly unlikely that all these languages borrowed this word from Quechua one by one. It is much more likely that word spread in a chain.

Less extreme cases involve the spread of Aymara numerals like *pataka* 'hundred', which were borrowed into Araucanian, and then into Allentiac, Tehuelche, and Gününa Yajich, in a process of chain borrowing. Similar cases involve other Quechua and Aymara numerals, generally above 'three' or 'four', which have spread into a series of pre-Andine languages, possibly also sometimes in processes of chain borrowing.

More complex are cases of Spanish borrowings for domestic animals such as *misi* 'cat' (< Sp. miche) and *khuchi* 'pig' (< Sp. *coche*) which occur in a similar or identical way in a host of South American indian languages. Were they first borrowed into Quechua and then spread from there to other languages, or were they borrowed in parallel in a number of different languages?

Even more complex are cases of borrowing of Spanish conjunctions. Stolz and Stolz (1996) show that the languages of Meso-America by and large have borrowed the same conjunctions and discourse markers all the time. It is not exactly clear how to interpret this finding. Is it chain borrowing? Are there common typological constraints involved? Are the sociolinguistic settings so similar that this is to be expected?

11. Conclusions

It is too early to draw any firm conclusions from the above survey. There is no doubt, however, that language contact, both in the period before the European invasions and afterwards, has been very intense. In some cases this has lead to complex patterns of restructuring and to languages which are difficult to classify genetically using standard techniques.

In the coming years, more solid knowledge about the make up and common linguistic properties of individual linguistic families will lead to further insights about those members of a family that do not fit into the pattern, and must have undergone extense restructuring from the outside.

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The abbreviations used in this chapter are:

ABL	ablative
AUM	augmentative
CIT	citation
DEM	demonstrative
DIR	directional
DT	determiner
EMP	emphatic
FIN	purposive
FOC	focus
IM	imperative
IN	indefinite
INT	interrogative
INTR	intransitive
LOC	locative
NEG	negative
PL	plural
Q	Quechua
REI	reiteration
TR	transitive

Typological characteristics of South American indigenous languages

Lyle Campbell

1. Introduction[1]

South America's 108 language families (including isolates) represent about one quarter of the world's linguistic diversity, of c. 420 independent language families (see Campbell Classification, this volume; Campbell and Poser 2008). This linguistic diversity is matched by wide-ranging typological differences among the languages of South America (henceforth SA). However, given that little was known about the grammars of most SA languages until recent times, typological traits from these languages, many of them unique or unusual, have not figured significantly in the general typological literature. For example, in the *World Atlas of Linguistic Structures* (WALS, http://wals.info, see Haspelmath et al. [2008]), representatives of only 72 SA families are mentioned (that is, 35% have no representation). However, this number is misleading, since for most of the SA languages in WALS only a few traits are registered in each language of the many traits dealt with in WALS that could have been listed in these individual languages. *Ethnologue* (see Lewis 2009) lists only 63 SA families (that is, 40 families and 23 isolates), only a bit over half of South America's total. Johanna Nichols' *Linguistic Diversity in Space and Time* (1992) sample has only 17 languages to represent all SA families – that is, 87 % are unrepresented. Clearly then, SA has been underrepresented in typological surveys and in the typological literature generally, and knowledge of the different kinds of typological features and their distribution in the world is significantly limited by this absence. Moreover, since many of these languages are endangered, it is all too possible that important typological information may be lost irretrievably as underdocumented languages become extinct in this region – indeed, many have already become extinct, presumably taking invaluable but unregistered typological traits with them (Crevels this volume; Campbell Classifiation, this volume).

Typology, broadly speaking, is the classification of languages according to linguistic traits and the comparison or classification of linguistic structures across languages. More specifically, typology is understood in different ways: among them, the classification of structural types cross-linguistically, the investigation of cross-linguistic generalizations concerning patterns among linguistic traits, and also as a general approach to linguistics which attempts to explain the patterns and classification through appeal to language function in cross-linguistic comparison – the relation between linguistic form and function. Typology is closely associated

with the study of linguistic universals, which are concerned with common characteristics in the world's languages, with the goal of providing insight into the fundamental nature of human language. Thus discoveries in typology and universals contribute to linguistic theory, which is aimed at understanding and explaining the nature of human language.

The large number of languages and language families, the range of typological features involved, and the limitations of the descriptive material available for the various languages make a general survey of the typological properties of SA languages difficult. Nevertheless, the goal of this chapter is to attempt to provide something approaching a general overview of the typological resources of SA languages. The focus is directed to selected typological traits of noteworthy significance. Given limitations of space, it is not possible to touch on all the traits that are worthy of consideration. It is also not possible to present a detailed typological profile of any language, language family, or area – not a practical task in any event – rather, (1) the focus is on unique or unusual typological traits which contribute to typology generally and to understanding of the full range of what is possible and not possible in human language, and (2) on typological traits characteristic of particular regions of SA and how some significant traits are distributed.

Sometimes one reads about broad typological traits that supposedly characterize many SA languages. However, not much attention is dedicated to these in this chapter, for on the whole they are not very informative. For example, it is often said that many SA languages are agglutinative. This can be misleading, however, since the nature of agglutination in these languages varies and its presence is usually a matter of how much agglutination a particular language has rather than whether it has the trait or not. For example, to say that Quechua is agglutinative and that Aymara has a greater degree of synthesis (fusion) is not helpful and is in fact misleading. In their morphological structure, Quechua and Aymara are strikingly similar, and the slightly greater amount of phonological modification in Aymara as opposed to Quechua when morphemes are concatinated is of little consequence for the overall sturcture of these languages. Similarly, one often reads about SA languages typically being highly polysynthetic, generally meaning they have complex words each consisting of several morphemes, where a single word may function as a whole sentence. But, again, to call the languages polysynthetic is not very useful, since some are much less polysynthetic and languages said to be polysynthetic can vary from one another in dramatic ways. For example, does it afford much insight to call a predominantly prefixing language and a mostly suffixing language both polysynthetic because both have multiple affixes attached to roots? Even in cases where languages have been thought to be exceptions to polysynthesis, to be more isolating or analytic in structure, there are questions of the adequacy of the isolating (analytic) label. For example, it has been said that Jêan and Makúan languages are relatively simply in morphology, relatively isolating (Doris Payne 1990:

219–220). This, however, does not appear to be strictly the case, since there are pronominal prefixes in Jêan, and Makúan languages (Hup and Dâw) have some complex verb morphology (Epps 2008; Martins 2004). Similarly, though Jabutían languages are said to be "highly isolating", at the same time they are reported to have "a number of obligatory prefixes" and several derivational suffixes (Ribeiro and van der Voort 2010).

Another general trait sometimes mentioned as characteristic of numerous SA languages is head marking as opposed dependent marking. This is more useful, though there are exceptions and also considerable variation even within head-marking languages (Nichols 1992).

Brief mention of some historical antecedents which have dealt with SA typological traits generally is in order.[2]

2. Historical antecedents

While modern interest in linguistic typology developed only in the last few decades, there were some earlier general considerations of SA language typology.

Samuel Lafone Quevedo (1896) divided SA languages into three large, geographically defined "types":

> First, those that suffix pronominal particles; second, those that prefix these; and third, those that utilize both grammatical means. Of the first the typical example is the language called Quichua; of the second Guaraní; while of the third a case in point would be Mocoví and its co-dialects […] in the large Guaycuruan family.[3]
> (Lafone Quevedo 1896: 121–122)

He believed his third type was due to language contact: "this grammatical means [personal pronominal affixes of two kinds], which at first sight seems strange, has a very natural explanation: these languages and codialects are found enclosed between Guaraní, which is prefixing, and Quichua, suffixing"[4] (Lafone Quevedo 1896: 122).

Brinton (1898) criticized Lafone Quevedo's groupings. He said that:

> [Lafone Quevedo] maintains that there is a fundamental difference between what he calls the "Atlantic" type of languages [Tupí-Guaraní, Mataco, Guaycuru] and the "Pacific" or "Andean" [Araucanian, Aymara, Quechua, Lule, Vilela] based upon the trait that the latter suffix the pronominal particles while the former prefix them […] He himself [Lafone Quevedo] acknowledges […] that the dialects of the Guaycuru stock are by no means a unit in this feature, some prefixing and others suffixing the pronominal particles.
> (Brinton 1898: 180)

In spite of the criticism, Lafone Quevedo's observations may deserve consideration.

Antonio Tovar (1961) saw four geographically defined language "types" in SA. His Type I (eastern central zones, "unformed", "incorporating") contains "Mataco" [Wichí] and "other Chaco languages: Toba […] Chorote, and as typical of the languages of eastern Brazil, Bororo"[5] (Tovar 1961: 195). He believed the languages of this type to be the most primitive of the continent, "informes" [without form, imperfect, of vague or indeterminate form] (Tovar 1961: 195). Taking "Mataco" [Wichí] as the main example, he says "not only is the word order free and does not pertain to the grammar, rather more to style, but the morphology lacks certain resources which to our linguistic understanding appear indispensable for indicating grammatical relations and case"[6] (Tovar 1961: 195). He took as other evidence of these languages being "informes" what he believed to be the lack of number distinction in many personal pronouns and possessive prefixes, and that the various elements that mean reciprocal, direction or causative or durative, etc., can be made to follow the verb. He also cites instances of polysemy in Wichí (which all languages have) as evidence of its being lexically "informe" (Tovar 1961: 195). His claim of free word order in the Chaco turned out to be incorrect; SVO is the basic order in most of these languages, as Tovar and Tovar (1984: 202) later acknowledged.

Tovar's Type II (the Quechua type, agglutinative) (Tovar 1961: 196) has as members Quechua, Aymara, Araucano [Mapudungun], Allentiac and Millcayac [Huarpean languages], Tehuelche-Ona [Chonan], and Yámana [Yagan]. His Type III is from the northwest of SA, characterized by languages with suffixes, verb agreement, gender, etc. (Tovar 1961: 198). Type IV is the Amazonian type and has traits found also in the other three types. Guaraní is taken as typical of Type IV, with the negative in the verb, a rich system of postpositions, agglutinative, with possessive prefixes as in Type I (Tovar 1961: 199).

Tovar and Tovar (1984: 198–203, the second edition of Tovar 1961) did not change this "typology", although they appended a more updated discussion of word order. They point out that languages corresponding to Type I have SVO order, as in Mataco [Wichí] and Toba, but also in Guaraní, the language proposed as a model for Type IV languages. They also mention that a phonological typology could be based on the frequent oral-nasal contrast in vowels, which they cite in a number of languages (Tovar and Tovar 1984: 202). (Word order and nasalization are discussed below.)

Tovar's traits were in general not precise, but offer some general prespective on the typology of SA languages.

Other early treatments of typology in SA tended to be limited to discussion of particular areas (mentioned below), or to treatment of single structural traits (for example, Kirtchuk 1996; Rona 1969–1972). Wilhem von Humboldt's [1767–1835] interests involved several traits, but one is worthy of special mention. He ranked languages according to whether tense and aspect markers were located nearer to the verb stem than personal pronominal endings or viceversa. Languages of the former type, such as Mapudungun, Aymara, and Quechua, are more similar to

Indo-European languages in this regard and as a consequence considered higher on an evolutionary scale than languages of the other type, exemplified by Tupí-Guaranían and other languages of the Amazon region. This part of Humboldt's typology was not taken up by subsequent scholars (see Adelaar History, this volume).

In later work, many other typological traits have been considered (see for example, Adelaar and Muysken 2004; Aikhenvald 2004; Büttner 1983; Constenla 1991; Crevels et al. 2002; Derbyshire 1985, 1986, 1987, 1999; Derbyshire and Payne 1990; Dixon and Aikhenvald 1999a; Epps 2008; Franchetto 1990; Gildea and Queixalós 2010; Klein and Stark 1985; Michael 2008; David Payne 1990; Doris Payne 1990; Rodrigues 1997; Tonhauser 2007; Valenzuela 2003; Wise 1986; among others). Several of these have made insightful contributions to SA typology and to linguistic typology generally. The work of these scholars is not surveyed here individually; rather, it is considered in the discussion of particular traits and areas that follows.

I turn now to some of the unique or unusual typological traits that have been discovered in SA languages and to their typological significance.

3. Unusual traits

SA is home to a considerable number of unique or unusual typological traits, which contribute significantly to typology generally. Several of these are reported briefly in this section.

3.1. Phonological traits

While typological studies often concentrate on morphosyntactic traits, it is appropriate to cite contributions from SA languages to phonological typology (see Storto and Demolin this volume; also González 2003).

SA languages vary greatly in the composition and character of their phonological inventories – here one size does not fit all. For example, from a sample with 564 languages world wide, Maddieson (2008a) lists 91 (16%) in the world as having a small consonant inventory (6 to 14 consonants), of which 19 languages are in SA (21% of the languages with small inventories, 3.3% of the total sample), and out of a world total of 53 languages with large consonant inventories (34 or more consonants), four were in SA (7.5% of languages with large inventories, nearly 1% of the total sample). These figures, however, may be misleading, since other SA languages with large inventories were not in the sample. Numerous languages along the west coast and in Tierra del Fuego tend to have relatively large consonant inventories, while several from the Amazonian region (though not all by a large measure) have relatively small inventories.

3.2. Unique speech sounds: A case study

Nivaclé (a.k.a. Chulupí, Ashluslay), a Matacoan language spoken in Argentina and Paraguay, has a speech sound not found in any other language.[7] It is a complex segment composed of a voiceless velar stop and a voiced alveolar lateral resonant, articulated and released simultaneously (that is, with both articulatory gestures formed at the same time and released as nearly simultaneously as possible), /k͡l/ (Campbell and Grondona 2007; Campbell in preparation).[8] This finding has considerable typological significance: we must add a new speech sound to the inventory of possible sounds in human languages, and, the discovery of a new sound can have implications for general claims about languages, as this Nivaclé case illustrates.

Nivaclé is unusual in that it has no plain (voiced) /l/, though it does have two laterals, a voiceless approximant /ɬ/[9] and this /k͡l/. This fact has implications for several proposed universals. For example, one proposed universal holds that a marked lateral in a language implies the presence also of plain "l", and that voiceless "l" also implies the presence of plain "l" (cf. Maddieson 1984: 88). Neither is the case in Nivaclé, however. Nivaclé has both marked /k͡l/ and voiceless "l" (/ɬ/) (also marked), but no plain (unmarked) voiced "l". The phonemic inventory of Nivaclé consonants is given in Table 1.

Table 1. Nivaclé consonant inventory

p	t	ts	č	k	ʔ
p'	t'	ts'	č'	k'	
ɸ		s	š	x	
	ɬ				
	k͡l				
m	n				
w			y		

Nivaclé also provides exceptions to a number of other proposed cross-linguistic generalizations about laterals and liquids, providing valuable evidence about the possible structure of sound systems. For example, Maddieson (1984: 88) proposed the following:

(1) A language with two or more liquids is expected to have a contrast of a lateral and a non-lateral. However, in Nivaclé both liquids are laterals and there are no non-lateral liquids (no "r" sounds).
(2) A language with one or more laterals typically has a voiced lateral approximant. This, however, is not true of Nivaclé; /k͡l/ is not an approximant, and /ɬ/ is not voiced.
(3) "A language with two or more laterals contrasts them either in point of articulation or in manner of articulation but not in both." The Nivaclé laterals, however, differ both in point of articulation and manner of articulation.

Thus, the Nivaclé laterals illustrate well how the discovery of a new speech sound can have an impact on general claims about language.[10] Given the counterexamples just mentioned, all these proposed generalizations need to be re-evaluated.

3.3. Other unusual traits or unique sounds

There are other heretofore unknown sounds discovered relatively recently in SA languages. For example, Ladefoged and Everett (1996) describe a sound in Wari' and Oro Win (Chapakuran languages) composed of a voiceless laminal dental plosive followed by a voiceless bilabial trill, [t͡ʙ̥], an allophone of /t/ before /o/ and /u/ (see also MacEachern et al. 1997). Pirahã (Muran, Brazil, with about 100 speakers) has two unusual sounds, a voiced bilabial trill (rare in other languages) and a voiced lateral-apical alveolar sublaminal-labial double-flap (unique). The first is an allophone of /b/, the latter of /g/ (Everett 1982, 1984). While these sounds are allophones, some are unique human speech sounds.

Again, these findings have implications for broader claims. For example, some have claimed there is a connection between the size of a language's consonant inventory and the kinds of consonants expected to be in it. Lindblom and Maddieson's (1988) "size principle" has it that smaller inventories of consonants tend to contain only consonants which are simpler (to produce or to perceive) and that more complex consonants are found in languages with larger consonant inventories – more complex or "marked" sounds are expected more in larger inventories. This is challenged by the examples cited here, since Pirahã has an extremely small phonemic inventory, with only 11 phonemes, and Wari' has only 12. Maxakalí (Maxakalían) has only 10 consonants but four of them are the reasonably complex prenasalized stops /mb, nd, ndʒ, ŋg/ (Gudschinsky et al. 1970). Jabutí (Djeoromitxí) (Jabutían) has only 12 consonants but has the highly unusual affricate /bz/ before /i/ (Ribeiro and van der Voort 2010). It is all too plausible that these small languages of Amazonia could have become extinct, leaving us with no inkling that such sounds are possible in human languages, leaving us to theorize erroneously about constraints on possible sound systems in human languages based on the size of the inventory.

Other examples of unique or unusual sounds in SA languages include the linguo-labial segment (tongue tip or blade against the upper lip, which is drawn downward to meet the tongue) in Umotina (extinct, Bororan family, Brazil), also found in a group of languages in Vanuatu (Ladefoged and Maddieson 1996: 18–19, 43–44). Kuikúro (Cariban) has a phonemic uvular tap, unknown elsewhere (see Storto and Demolin, this volume). Southern Ninam (Yanomaman) has only voice stops (no voiceless ones) (Migliazza 1972); this violates the assumed universal that "if a language has only one stop series, that series is plain voiceless" (Maddieson 1984: 39).[11] Akuntsú (Tuparían subfamily of Tupían) has [pb], [td], [kg] segments as intervocalic allophones of /p/, /t/, /k/ respectively (confirmed both perceptually

and in acoustic analyses), perhaps unique in the world (Aragon 2008). Akuntsú also has no fricative consonants of any sort, though it does have the affricate /č/ (/tʃ/). This is unusual; in WALS' sample of 568 languages, only 48 lack fricatives, with the vast majority of these in New Guinea and Australia. Some other SA languages which reportedly lack fricatives are: Andoque, Bororo (Bororoan), Panare (Cariban), Wari' (Chapacuran), Waorani (a.k.a. Sabela). Also, Akuntsú goes against the generalization that affricates /ts/ or /č/ in a language presuppose the presence of sibilant fricatives. The Quechuan languages which have glottalized stops and affricates have no phonemic glottal stop /ʔ/, a violation of the putative generalization which holds that languages with glottalized consonants should by implication also have a phonemic glottal stop. Muniche distinguishes more places of articulation among fricatives than among stops. There are stops at five places of articulation: bilabial, alveolar, palatal, velar, and glottal (/p, t, c, k, ʔ/), but fricatives at six: alveolar, retroflex, post-alveolar, palatal, velar, and glottal (/s, ʂ, ʃ, ç, x, h/) (Michael et al., in preparation). This goes against the generalization that cross-linguistically the number of places of articulation for contrastive fricatives should not exceed those for contrastive stops (cf. Nartey 1982).

Some SA languages have unusual phonological inventories. For example, Maxakalí (Maxakalían) has no sonorant consonants and no fricatives (only /p, t, č, k, b, ɟ, g, h, ʔ/) (Wetzels 2009b). Pirahã (Muran) has no sonorant consonants (only /p, t, k, b, g, s, h, ʔ/).[12] Most Nambikwaran languages have more contrastive vowels than contrastive consonants (Leo Wetzels, personal communication). Nanti (Arawakan) is unusual in that it has velar stops which are released with fricative alveolar/post-alveolar secondary articulations: [k͡s, k͡ʃ] and [g͡z, g͡ʒ], which are allophones of /k/ and /g/ before /e/ and /i/, respectively (Michael 2008: 629–630). Apparently the only other language that exhibits secondary velar assibilation is Blackfoot (Telfer 2006: 81; Lev Michael, personal communication).

Some unusual vowel inventories are also claimed for some SA languages. For example, there are the unusual three-vowel systems: Amuesha (Arawakan) /e, a, o/ (Fast 1953), Qawasqar (Qawasqaran) /ə, a, o/ (Clairis 1977), and Selknam, Tehuleche, and Teushen /e, a, o/ (Chonan) (Viegas Barros 2005: 56, 61, 65).[13] These raise problems for several general claims, for example that vowel systems should have at least one high vowel (missing in all these languages), and that a vowel system should have at least one front vowel (not the case in Qawesqar) (cf. Hyman [2008] for discussion). Karajá has vowel harmony based on [ATR] (advanced tongue root) (Ribeiro 2002), a rare phenomenon, particularly among indigenous languages of the Americas.

3.4. General phonological traits of SA languages

Let us turn now to other phonological traits that have received attention in the literature on SA languages.

3.4.1. Nasalized vowels. Tovar and Tovar (1984: 202) spoke of a possible phonological typology in SA based on the frequent oral-nasal contrast in vowels. Contrastive nasalized vowels are known from, for example, Andoké (Aikhenvald and Dixon 1999: 372); Arawakan (Apurinã, Tariana, Wapishana [Maddieson 1984: 404]); Cariban (Yukpa); Cayuvava (Key 1967; Aikhenvald and Dixon 1999: 368); Cahuapanan (Jebero, Chayahuita [Wise 1999: 313]); Chapacuran (Wari'); Chiquitano (Adelaar and Muysken 2004: 476); Chocoan (Epene Pedee [Southern Embera (Harms 1994: 5)]); Cofán; Guajiboan (Guajibo [Maddieson 1984: 408]); Guató; Jêan (Apinayé, Kaingang [Rodrigues 1999a: 173]); Jivaroan (Aguaruna [Wise 1999: 314], Jívaro); Karirian (Kipeá [Rodrigues 1999a: 173]); Makúan[14] (Dâw [S. Martins 2004: 61–64; Martins and Martins 1999: 256], Hup [Epps 2008: 1, 72–75], Kakua, Nukak, Nadëb, Puinave); Maxakalían (Maxakalí [Rodrigues 1999a: 173; Wetzels 2009b]); Ofayé (Rodrigues 1999a: 173); Mosetenan (Mosetén [Sakel 2004: 17]); Nambikwaran (Lowe 1999: 271; Maddieson 1984: 401; Eberhard 2009: 96–8); Paezan (Paez [Maddieson 1984: 395]); Pano-Tacanan (Amahuaca [Maddieson 1984: 398]), Cashinahua (Maddieson 1984: 399); Sabela (Maddieson 1984: 402); Tikuna (Maddieson 1984: 408); Tukanoan (Barasano [Maddieson 1984: 409]), Koreguaje (Cook and Criswell 1993: 8), Kubeo, Secoya, Siona, Tukano (Maddieson 1984: 409–410), Wanano (Stenzel 2007, 2008); Tupían (Guaraní, Kamaiurá [Seki 2000: 48]), Kawahib, Karo (Rodrigues 1999b: 111), Proto-Tupí-Guaranían (Jensen 1999: 134), Urubú-Kaapor; Warao; Witotoan (Ocaina [Maddieson 1984: 396]); Yaruro; Yanomanan; and others.

Migliazza (1985: 20, 118) sees diffusion of vowel nasalization from west to east in what he calls the Orinoco-Amazon Linguistic Area. Adelaar and Muysken (2004: 499) lists constrastive nasalization for vowels as a Chaco trait, found in Zamucoan (Adelaar and Muysken 2004: 496; Briggs 1973: 156; Sušnik 1957, 1972) and Tupí-Guaranían languages, though not found in most other languages of the Chaco.[15]

3.4.1.1. Rhinoglottophilia. An interesting trait is the nasalization of vowels next to /h/ (rhinoglottophilia). This is found allophonically in Wichí, the only Matacoan language with the trait. Several Arawakan languages also have vowel nasalization next to /h/: Bare, Kurripako (Baniwa), Yawalapiti, Yucuna (Aikhenvald 1999a: 78; Ramirez 2001: 57), and Nanti (Michael 2008: 231); also in Pirahã [Muran] "vowels may optionally be nasalized following *ʔ* or *h*" (Aikhenvald and Dixon 1999: 354). (See also Storto and Demolin, this volume.)

There is also spontaneous nasalization of final vowels and in some cases of final consonants before a pause in some languages of lowland SA: Jêan (Kain-

gang), Muran (Pirahã), Tupían (Asuriní, Sateré, Suruí), etc. (Jensen 1999: 134). This nasalization with pause can spread to other vowels in the word in some of these languages.

3.4.1.2. Nasal harmony (nasal spreading). Not only do the languages mentioned above have an oral-nasal contrast in vowels, in many, nasality spreads across segments or is a prosodic (suprasegmental) feature of the morpheme. These traits have been characterized in varying ways. As Bruno et al. (2008: 3) put it, the term "nasal harmony" "is generally used either to designate long distance nasal spreading (i.e. spreading of the nasal feature beyond the immediately contiguous segment), or to refer to a type of contrastive nasality in languages where the nasal feature characterizes a prosodic constituent for a morpheme, rather than a segment". Nasality is a feature of the morpheme or the syllable, so that voiced consonants next to nasal vowels must also be nasal (e.g. [bo] or [mõ], but not [bõ] nor [mo] – that is, [mõ] is /bõ/, sometimes symbolized as /~bo/ where the "~" indicates that the morpheme is inherently nasal).[16] Nasality also spreads across morphemes in many of these languages, so that when a morpheme with nasality is attached to a non-nasal morpheme, nasality spreads into the non-nasal morpheme across the vowels and consonants that do not block nasal spread. In Puinave, nasality has the syllable as its domain, affecting all nasalizable segments in nasal syllables, but does not spread beyond (Girón 2008: 76–78); somewhat similarly in Dâw (Makúan [Martins 2004: 63–64]) glides and laterals within the same syllable as a nasalized vowel are nasalized. The details (and direction) of nasal spread differ from language to language, but the general pattern is clear and widespread (cf. Bruno et al. 2008; Silva 2008; Walker 1998). Nasal harmony and/or nasal spread is found in, for example: Arawakan (Tariana [Aikhenvald 1999b: 394, 396]); Chahuapanan (Jebero); Chocoan (Constenla Umaña and Margery Peña 1991: 42, 164; for Epene Pedee [Southern Embera], see Harms 1994: 9), Jivaroan (Wise 1999: 314); Makúan (Hup[da]-Yuhup, Kakua-Nukak [Martins and Martins 1999: 255]); Maxakalían (Maxakalí [Wetzels 2009b]); Muran; Panoan (Loos 1999: 231); Terena (Arawakan); Tukanoan (Barnes 1999: 211; Silva 2008); Tupían (including Awetí, Mawé, Jurunan, Mundurukú, Proto-Tupí-Guaranían [Jensen 1999: 134]); Warao; Yaguan; and Yanomaman (Migliazza 1972: 157–159), among many others. (See Storto and Demolin, this volume, for more detail.) Eberhard (2009: 96–97, 253–261) argues against a nasal spreading process in Mamaindê (Nambikwaran), supporting rather an analysis with "oralization" of nasal codas.

3.4.2. Glottalization. Glottalized (ejective) stops and affricates, and often also glottalized sonorants (liquids, nasals, glides), are found in a good number of SA languages, though less common in Amazonia. SA languages which have glottalized consonants include: Atacameño (Adelaar and Muysken 2004: 378, 380; Torero 2002: 496); Aymaran; Chonan (Gününa Yajich [Gününa-Küne], Selk'nam,

Tehuelche [Adelaar and Muysken 2004: 562–3, 559]); Itonama (Maddieson 1984: 393); Kawesqar (Adelaar and Muysken 2004: 566); Matacoan; Nambiquaran (Maddieson 1984: 401); Quechuan (many dialects have glottalized stops and affricates, others do not; glottalization and aspiration are sometimes argued to be due to Aymaran influence); Trumai; Uru-Chipayan; and Vilela (Adelaar and Muysken 2004: 387). Cahuapanan (Cahuapana) and Yaguan (Yagua) have glottalized velar stops only (Storto and Demolin this volume).

Glottalization is an areal trait of the Highland Andean region (Büttner 1983). Migliazza (1985: 20, 118) sees glottalization as moving by diffusion from west to east in his postulated Orinoco-Amazon Linguistic Area. It is also "present but not widespread" in languages of the Fuegian area (Adelaar and Muysken 2004: 578).

Siona (Tukanoan) apparently has a glottalic-like laryngealized series of stops which has effects on accompanying vowels (Wheeler and Wheeler 1962), and Proto-Tukanoan may have had a contrastive series of these laryngealized consonants (Chacon 2009). Stenzel (2007) has proposed an analysis of "glottalization" (glottal stop and laryngealization effects) as a suprasegmental feature of roots in Wanano and other Eastern Tukanoan languages, and Silva (in preparation) finds evidence for a similar analysis in Desano. Whether this glottalic-like laryngeal series and the suprasegmental treatment of glottal effects in these various Tukanoan languages involve the same or similar phenomena needs future investigation. Epps (2008: 63–78) analyzes Hup (Makúan) as having a series of glottalized consonants, whose phonetic realization varies considerably in different contexts but which mainly is seen in its larygealization effect on following vowels – it is essentially not ejective (except the phonetically voiceless /j'/ and /g'/ may in some cases "sound mildly ejective." Silvana Martins (2004) has a somewhat similar analysis for Dâw (Makúan), with contrastive glottalized nasals, laterals, and glides, and ejective /k'/ and /c'/, a palatal stop, but no other glottalized stops or affricates. Puruborá (Tupían) has ejective allophones of dental and velar voiceless stops (in stressed syllables) and implosive allophones of labial and dental voiced stops (Galúcio 2005). Maddieson (2008b) reports Wapishana (Arawakan) and Paumarí (Arawan) as having implosives as their only glottalic consonants. Dixon (1999: 295) reconstructed imploded *ɓ* and *ɗ* for Proto-Arawan, though with implosion lost in three of the five languages (Dení, Kulina, and Madi), preserved only in Paumarí and Sorowahá. Some Nambikwaran languages also have implosives; Sabané has /ɓ/ and /ɗ / and Kithãulhu has /ɗ / (Telles and Wetzels, forthcoming; Antunes de Araujo 2004: 43), while older speakers of Mamaindê have *ɓ* and *ɗ* in variation with *b* and *d*, respectively, in syllable onset position (Eberhard 2009: 58, 63). Orejón (Tukanoan) also has voiced imploded bilabial and alveolar stops (Barnes 1999: 210), as does Nipode (Witotoan) word-medially (Wise 1999: 317). Similarly, labial and palatal implosives are reported in Kwaza (Koaiá), and a single rare labial implosive in Puruborá (Tupían) (Storto and Demolin, this volume). Voiceless implosives have recently been reported also in Ese Ejja (Chama branch of Takanan,

Pano-Takanan family) (Storto and Demonlin this volume; also Aikhenvald and Dixon 1999: 365).

Glottalized sonorants are not as common as glottalized stops and affricates, but are found in some languages. Enlhet (Nothern Lengua, Mascoyan family) has glottalized sonorants /m', n', ŋ', w', y'/, but no glottalized stops or affricates. Movima (isolate) and Wari' (Chapacuran) have glottalized nasals (*m'* and *n'*) (MacEachern et al. 1997: 19); Haude (2006) analyzes these in Movima as post-glottalized voiceless stops with nasal release (see Storto and Demolin, this volume). Dâw (Makúan) reportedly has glottalized nasals, and Hup (Makúan [Epps 2008: 72–4]) has "glottalized" glides, *w'* and *y'* whose phonetic realization is seen in the laryngealization of following vowels, but /w'/ is phonetically [wˀ] word-finally and [wˀw] when followed by a vowel-initial suffix; /y'/ is [ᵈy] with laryngealization of the following vowel when word intial, [yˀ] word medially and finally, and [yˀᵈy] before vowel-initial suffixes. Hup also has "glottalized" nasals, but these are analyzed as allophones of "glottalized" stops (mostly realized as laryngealization on vowels, see above) (Epps 2008: 83). Wichí (but not other Matacoan languages) has sometimes been analyzed as having glottalized liquids and nasals, in addition to glottalized stops and affricates (cf. Lunt 1999: 10).

3.4.3. Uvular (post-velar) consonants. Voiceless uvular stops and sometimes also voiceless uvular fricatives are found in several SA languages, though the number of languages involved is not large. Uvular stops are a characteristic of the Highland Andean region (see Büttner 1983: 179). SA Languages with uvulars include: Atacameño (Torero 2002: 495); Aymaran; Cholón (Torero 2002: 164); Chonan (Gününa Küne, Selk'nam, Tehuelche [Adelaar and Muysken 2004: 559, 562–563]); Guaicuruan (cf. Adelaar and Muysken 2004: 493; Messineo 2003: 35–36); Huarpean (Allentiac, Millcayac [Torero 2002: 505]); Qawasgaran (Kaweskar [Adelaar and Muysken 2004: 566]); Lule-Vilela (Vilela [Adelaar and Muysken 2004: 387]); Puquina (Torero 2002: 523); Quechuan; and Uru-Chipayan (Torero 2002: 523). Voiceless uvular stops (*q, q'*) and a uvular fricative (*χ*) are postulated for Maká by Gerzenstein (1989, 1995; see also Viegas Barros 2002), though their phonemic status may require more investigation, since the other Matacoan languages (Chorote, Nivaclé, Wichí) also have phonetic uvular stops, but only as allophones of velars in particular phonetic environments.

3.4.4. Voiceless "l". Voiceless "l" ([ɬ]) is not common in SA but is found in: Atacameño (Torero 2002: 497); Chonan (Gününa Küne [Adelaar and Muysken 2004: 562]); Lule-Vilela (Adelaar and Muysken 2004: 387; Zamponi 2008); Mascoyan (Adelaar and Muysken 2004: 387); Matacoan; Mochica (Torero 2002: 524); Uru-Chipayan (Torero 2002: 524); and Yagan (Adelaar and Muysken 2004: 569). In Chamicuro (Arawakan) /l/ is voiceless at the end of syllables; Suruí (Mondean branch of Tupían) has a voiceless lateral interdental as an allophone of the interdental voiceless fricative /θ/ (Rodrigues 1999b: 112).[17]

3.4.5. Retroflex consonants. The presence of retroflex consonants in SA languages is sporadic. Retroflexion is an areal trait of the Highland Andean region (see Büttner 1983). Constenla Umaña (1991: 124) also lists retroflex fricatives or affricates as an areal trait of his Ecuadoran-Colombian (subarea of the Andes). Retroflex sounds are also found in some languages of Tierra del Fuego "but are not frequent" (Adelaar and Muysken 2004: 579). SA languages with retroflex sounds include: Arawakan (Amuesha with /z̧, ṭsh/ [Maddieson 1984: 405], Baniwa [for voiced fricatives], Chamicuro [for voiceless retroflex alveopalatal fricative and affricate], Wapishana /ẓ/ [Maddieson 1984: 404]); Aymaran (Proto-Aymaran [Torero 2002: 523], Jaqaru [Maddieson 1984: 403]); Barbacoan (Awa Pit, Guambiano [Torero 2002: 523]); Camsá (Torero 2002: 523); Candoshi (for affricates and fricatives); Chipaya-Uru (Torero 2002: 523); Chonan (Gününa Küne [Adelaar and Muysken 2004: 562]); Mapudungun (Adelaar and Muysken 2004: 517; Torero 2002: 509, 523); Muniche (Michael et al. in preparation); Pano-Tacanan (Cashinahua /ṣ/ [Maddieson 1984: 399], Chacobo /ṣ/ [Maddieson 1984: 398], Shipibo-Konibo /ṣ, ɻ/ [Valenzuela 2003: 95]); Quechuan (Proto-Quechuan [Cerrón-Palomino 1987: 109–112; Torero 2002: 523], for retroflex alveopalatal affricates and fricatives); Tukanoan (Siona /ṭ/ [Maddieson 1984: 409], Tacano /ṣ, ṭṣ/ [Maddieson 1984: 399]).

3.4.6. Languages with tonal contrasts. A good number of SA languages have tonal contrasts. A clarification is in order here, however, since there has been confusion involving the notion of "pitch accent". Generally what is meant by pitch accent is merely a tonal contrast, though with only one tonal contrast, high and low, often only possible on some particular syllables in certain phonological contexts, but not found on all syllables of a word in the language. This sort of contrast is still a tonal contrast, though opinion differs as to whether it should be treated in the same manner as tonal contrasts that are not so restricted. Here, I follow Hyman (2006, 2009) in treating pitch accent as merely belonging to tone.[18] (See also Storto and Demolin, this volume.) In addition, there is also the problem of lack of information – in a number of cases the description of "pitch accent" is not sufficiently clear to understand what is meant or what phenomena the term is intended to cover. Here I do not distinguish pitch accent, where it clearly involves tonal contrasts, from tonal systems in general.

Some of the SA languages with tonal contrasts are: Aikaná; Andoke; Arawakan (Achagua, Baniwa-Kurripako [Ramirez 2001: 92, 237, 248–250], Piapoco, Res'garo, Terena, Tariana); Boran (Muinane [Wise 1999: 316]); Cahuapanan (Wise 1999: 313); Chibchan (Bari, Boruca, Bribri, Cabécar, Chimila, Guaymí, Uw Cuwa); Chonan; Fulniô [Yaté]; Guató; Jivaroan (Aguaruna [Wise 1999: 314]); Makúan [V. Martins 2007]; Dâw [Martins 2004; Martins and Martins 1999: 256], Cacua, Hup [Epps 2008: 86–98], Puinave [Girón Higuita and Wetzels 2007]); Muran (Pirahã); Nambikwaran (Eberhard 2007, 2009: 189–220); Tehuelche

(Chonana [Viegas Barros 2005: 61), Tikuna; Tukanoan; Tupían (Arikém, Cinta Larga, Gavião, Juruna, Karitiana, Karo, Mekens, Mondé, Mundurukú, Ramarama, Suruí, etc.); Witotoan (Ocaina [Wise 1999: 316]); Yaguan (Yagua); Zaparoan (Iquito [Wise 1999: 318]); etc.

3.4.7. Stress. Some SA languages have unusual systems for determining stress. In some, stress assignment is sensitive to onsets of syllables: Arawakan (Banawá), Cariban (Júma), Muran (Pirahã) (Gordon 2005), Bororoan (Umotina [Wetzels 2009a]). Stress assignment that depends on sonority is found in some SA languages (de Lacy 2007), especially in the Kampan branch of Arawakan (Ashéninka [Judith Payne 1990]), Nanti (Crowhurst and Michael 2005). Nanti is particularly interesting in that it combines sonority-sensitivity with quantity-sensitvity for stress assignment; it has three sonority levels and four levels of syllable "weight", giving the language 12 levels of syllable prominence for purposes of stress assignment, a record for human languages recorded so far (Crowhurst and Michael 2005).

3.4.8. Vowel length. Languages with a vowel-length contrast in SA are unremarkable. That is, there are numbers of languages both with and without a length contrast, not unlike other regions of the world. One phenomenon is worth mentioning, however. Maddieson (1984: 129) argued that the probability that length will be part of the vocalic system of a language increases with the number of vowel quality contrasts found in the language. As Storto and Demolin (this volume) point out, SA languages do not seem to fit this generalization, since they often have small vocalic inventories that also contrast length.

3.5. Morphosyntactic traits

I turn now to morphosyntactic traits, usually the core of typological treatments. A number of these traits are unique or highly unusual, with significant implications for general claims about language. To cite just one example, Nanti (Campan branch of Arawakan) makes a clear, overt morphological distinction between "realis" and "irrealis", thus laying to rest the debate about whether realis/irrealis is a necessary grammatical category in any language – clearly it is (Michael 2008: 250; see also Mamaindê [Nambikwaran (Eberhard 2009: 444)]).

3.5.1. Word Order (constituent order). SA has representatives of all basic word order types, with more variety among its languages than those of any other area of the world. (Here S = Subject, V = Verb, and O = Object.) Examples as reported in the literature are:

SOV: Arawakan (Guinao, Parecis, Pirao, Piro, Resígaro, Shiriana, Tariana, Terena); Arawan (Dení); Atacameño; Aymaran; Barbacoan (Awa Pit, Cayapa, Tsafiki); Candoshi; Cariban: (Dekwana, Waiwai); Cariban (Waiwai); Chipaya-Uru; Chiquitano (Adelaar and Muysken 2004: 488); Chocoan (Epene Pedee [Southern Embera (Harms 1994: 9)]); Chonan (Tehuelche [Adelaar and Muysken 2004: 563, 579]); Guaicuruan; Guajiboan (Cuiba); Huarpean (Allentiac [Torero 2002: 526]); Irantxe; Jabutían (Jabutí); Jêan (Apinayé, Canela-Krahô, Kaingang, Kayapó, Xokleng); Jivaroan (Jívaro); Qawasgar (Qawasgaran [Adelaar and Muysken 2004: 566, 579]); Lule-Vilela (Lule); Makúan (Hup, etc. [Epps 2008: 2; Aikhenvald 2007b: 284]); Matacoan; Muran (Pirahã); Nambikwaran (Mamaindê [Eberhard 2009: 532–534], Sabanê [Antunes de Araujo 2004: 182]); Paezan (Paez); Pano-Takanan (Capanahua, Cashibo, Cavineña, Ese Ejja, Matsés, Shipibo-Konibo, Yaminahua); Puquina (Torero 2002: 410); Quechuan (Huallaga Quechua, Imbabura Quichua, etc.); Rikbaktsá; Tikuna; Tukanoan (Desano [Stenzel 2008: 173], Piratapuyo [Waikhana (Stenzel 2008: 173)], Retuarã [Stenzel 2008: 173], Siriano [Stenzel 2008: 173], Tukano [Stenzel 2008: 173], Tuyuka [Stenzel 2008: 173], Wanano [Kotiraia (Stenzel 2008: 173)]); Tupían (Cinta Larga, Kamaiurá, Mekens, Mundurukú, Sirionó, Urubú-Kaapor); Waorani; Witotoan (Minica, Murui); Yagan; Yuracaré; Yanomaman; Zaparoan (Arabela).

SVO: Arawakan (Achagua [Ramirez 2001: 267, 309], Apurinã, Asheninca [Payne 1981], Baniwa-Kurripako [Ramirez 2001: 470], Baré, Kabiyari [Ramirez 2001: 470], Maipure, Mandawaka [Ramirez 2001: 470], Palikur, Piapoco [Ramirez 2001: 470], Resígaro [Ramirez 2001: 470], Warekena [Ramirez 2001: 336], Waurá, Yukuna [Ramirez 2001: 361], etc.); Itonama; Guaicuruan; Makúan (Dâw [Martins 2004: 525, 531–532]); Matacoan; Mosetenan (Mosetén [Sakel 2004: 376]); Tukanoan (Coreguaje); Tupían (Guaraní, Karitiana); Zamucoan (Ayoreo); Zaparoan (Iquito, Zaparo), etc.

VSO: Arawakan (Amuesha, most Campan languages, Palikur); Arawan (Paumari); Taushiro; Tukanoan (Koreguaje); Yaguan (Yagua).

VOS: Arawakan (Bauré [Romero-Figuera et al. 2007: 7]); Cayuvava (Key 1967); Karirí; Tupían (Kaiwá).

OVS: Arawakan (Apuriná [Romero-Figuera et al. 2007: 7]); Cariban (Apalaí, Hixkaryana, Panare, Tiriyo); Chonan (Selknam [Adelaar and Muysken 2004: 560, 579]); Tukanoan (Barasano [Stenzel 2008: 173], Kubeo, Karapana [Stenzel 2008: 173], Tatuyo [Stenzel 2008: 173], Yurutí [Stenzel 2008: 173]); Tupían (Asuriní); Maxakalían (Maxakalí); Urarina.

OSV: Arawakan (Apuriña); Arawan (Jamamadí); Jêan (Xavante); Makúan (Nadëb); Tupían (Urubú, Yuki [Yuki has OVS as most frequent, but OVS/SOV as less frequent, Villafañe 2004: 132–134]); Warao (Romero-Figuera et al. 2007: 7); Vilela (Lule-Vilela [Romero-Figuera et al. 2007: 7]).

OVS/SOV: Cariban (Kuikuro, Macushi, Ingaricó [Kapón] [Sousa Cruz 2005: 361]); Jabutían (Ribeiro and van der Voort 2010). Note that for the Tukanoan languages Bará, Karapana, Tatuyo, and Yurutí, Stenzel (2008: 173) gives OVS as the basic word order but lists SVO as an alternative order. She gives Bará as SOV with OVS as possible; Kubeo is given with OVS basic order and VSO as an alternative order. Yurutí is OVS with a known S referent and SOV with a new S referent (Stenzel 2008: 173).

SVO/OVS: Arawan (Paumarí)

SVO/SOV: Yagan (Yagan [Adelaar and Muysken 2004: 579]), Camsá (VO 55.6 %, OV 44.3 % [Fabre 2002: 176])

VOS/SVO: Arawakan (Guajiro?, Waurá?); Chonan (Gününa Küne [Adelaar and Muysken 2004: 562, 579]).

SOV/OVS: Cariban (Ingaricó [Capón, Kapong], Sousa Cruz [2005: 236–237])

Some languages may have VOS/VSO, where it is not certain whether one order is more dominant than the other. Possible but uncertain representatives are Guató, and Guajajara (Tupían). (See also Derbyshire 1987; Haspelmath et al. 2005: 330–333; http://wals.info.)

There are some regional patterns involving word order. For example, Constenla Umaña (1991: 125–126) lists exclusively VO order (absence of SOV) as a trait of his Venezuelan-Antillean Linguistic Area. He finds SOV the exclusive order for his Colombian-Central American area (Constenla Umaña 1991: 127). Most languages of the Chaco region have SVO order (see Campbell and Grondona, this volume). Derbyshire (1986: 560–561) believes languages of Amazonia regularly have one particular set of constituent orders, regardless of what the Subject, Object, and Verb order may be, which is: NPostp (Noun-Postpositions), GN (Genitive-Noun), and NA (Noun-Adjective).

A telling example is the discovery of languages with OVS (Object-Verb-Subject) and OSV (Object-Subject-Verb) basic word order. In his ground-breaking work on universals, Greenberg (1966) found only SVO, SOV, and VSO basic word order in the languages of his sample. His Universal 1 reflects this: "In declarative sentences with nominal subject and object, the dominant order is almost always one in which the subject precedes the object" (Greenberg 1966: 177). Another version was stated as "whenever the object precedes the verb the subject does likewise" (Greenberg 1978: 2; Derbyshire and Pullum 1986: 16–17). As his proposed universal shows, Greenberg thought OVS and OSV to be non-occurring (or ex-

ceedingly rare) orders; however, they have now been found in a few languages, first discovered in languages of the Amazon.[19] An example that became well-known is that of Hixkaryana (Cariban), with only 350 speakers, with its OVS order illustrated in (1):

(1) *toto* *yonoye* *kamura*
man ate jaguar
'The jaguar ate the man.'

The discovery of the existence of languages with these basic word orders forced the reconsideration of the postulated universal. Derbyshire (1987: 315) also reported that Guajajara (Tupían) and Yagua (Yaguan) have in their configuration of word orders: VSO, NA (Noun-Adjective), GN (Genitive-Noun), and NPost (Noun-Postposition), and that this violates Greenberg's (1966) Universal 3, which "specifically disallows the combination of VSO and N-POSTP [Noun-Postposition]".

These languages illustrate both the range of typological diversity in SA and the value of documenting little-known, endangered languages. It is all too plausible that the few languages which have these basic word orders formerly thought not to exist could have become extinct before they were documented, given, for example, the treatment of indigenous peoples of Brazil until recently (and still by unscrupulous miners, ranchers, and logging companies). Had all OVS and OSV languages become extinct with no documentation, linguists would persist in believing the postulated but over-stated universal about subject preceding object, and on its basis, would make hypotheses about absolute limits of Universal Grammar and about the potentials and limitations of human cognition.

A general problem for word order typology is that basic word order is determined on the basis of clauses which have both an overt subject and object which are full noun phrases (not pronominals) (Siewierska 1988: 8); however, in most of the world's languages, including most SA languages, such clauses are rare. Notwithstanding, this usually has not been taken as a serious obstacle to determining basic word order in these languages. However, against this general trend in languages, most Pirahã (Muran) transitive clauses reportedly have both subject and object nominals, and Sanumá (Yanomaman) also uses overt nominals and independent pronouns more than other Amazonian languages (Derbyshire 1987: 313).

3.5.2. Verb alignment. As with basic word order, SA is home to languages with all types of verb alignment systems. A serious problem has been lack of accurate descriptions of verb alignment for many of the languages. For example, a number of active-stative languages appear to have been identified as ergative (see, for example, Derbyshire 1987: 316–320).[20] Derbyshire (1986: 560–561) listed as an areal characteristic of Amazonian languages the "tendency towards ergatively-organized syntactic systems"; however, it is not clear how many of these languages may actually have active-stative alignment, as for example, Tupí-Guaranían and

several other Tupían languages do. The verb alignment patterns are signalled either by nominal case-marking or by verb agreement patterns, depending on the language. Lists of languages with the different verb alignments as reported in the literature follow.

Nominative-Accusative: Arawakan (Nanti); Atacameño; Aymaran; Candoshi; Huarpean; Jivaroan (Jívaro); Makúan (Dâw, Yuhup, Hup [Aikhenvald 2002: 75–76, 2007b: 282; cf. Epps 2008: 2]); Quechuan; Tikuna; Tukanoan (cf. Stenzel 2008); Witotoan; etc. Dixon and Aikhevald (1999b: 9) say "fully accusative systems of marking for predicate arguments are rarely encountered" in Amazonian languages. Tehuelche (Chonan) has nominative-accusative marking, but with rare overt marking of the nominative and no overt marking of the accusative (Fernández Garay 2007: 30). WALS (http://wals.info/feature/98) finds only six Nominative-Accusative languages which have overt nominative marking in the world.

Ergative: It has been said that Amazonia is one of the most "ergative" areas in the world, and that Nadëb [Makúan] is "one of the most ergative languages in the Amazon region" (Martins and Martins 1999: 263). SA languages that have been reported to have ergative alignment include: Aikaná; Arawakan (Campan languages); Arawan (Paumarí); Cahuapanan (Shiwilu [Jebero, Valenzuela (2008)]); many Cariban languages (Derbyshire 1987: 316; Franchetto 1990, 2008, 2010; Gildea 1998, 2003; Sousa Cruz 2005: 236); Chibchan (Ika); Chocoan (Constenla Umaña and Margery Peña 1991: 177; for Epene Pedee [Southern Embera] see Harms [1994]); Cholón (Torero 2002: 170); Chonan languages (Viegas Barros 2006); Guajiboan; Jabutían (Ribeiro and van der Voort 2010); Jêan (Apinajé [Castro Alves 2008], Canela [Castro Alves 2008], Mebengokré [Kapayó, Xikrin, Castro Alves 2008, Salanova 2008], Suyá [Castro Alves 2008], Timbira [Castro Alves 2008], Xavante, Xokléng [Castro Alves 2008]); Karirian (Kipeá); Katukinan (Katukina [Queixalós 2010]); Makúan (Nadëb [Aikhenvald 2007b: 244], Puinave [Girón 2008: 335]); Pano-Takanan (cf. Fleck 2010; Guillaume 2010; Monrós 2004; Valenzuela 2010); Puquina (Torero 2002: 410); Trumai (Gildea 2004); Tupían generally [some are active-stative]; Yanomaman; Zaparoan.

As mentioned, Derbyshire (1986: 560–561) reports the tendency towards ergatively-organized syntactic systems in Amazonia, saying also that this is not so strong in Arawakan as in the other families (see also Derbyshire 1987: 316–320). Dixon and Aikhenvald (1999b: 8–9) add that the complex rules for cross-referencing core argument (relating to the meaning of the verb, clause type, etc.) often give rise to "split-ergative" systems, and Migliazza (1985) finds ergative alignment an areal trait of his Orinoco-Amazon Linguistic Area. Derbyshire (1987: 316) adds, though, that "there is no evidence at all of ergativity in Pirahã, Urubú (Tupí[an]), and most of the Arawakan languages." (See Monrós 2004; Queixalós and Gildea 2010.)

Active-stative: Arawakan (Achagua, Bahwana, Baniwa do Içana, Baniwa-Kurripako [Granadillo 2008], Bare, Warekena, Waurá; perhaps Proto-Arawakan; Ramirez [2001: 262–266] – Aikhenvald [2002: 61, cf. 2007b: 244] says "most Arawak[an] languages are active-stative"); Cariban (Dekwana [Derbyshire 1999: 34]); Guaicuruan (Kadiwéu, Mocoví, Toba, Abipón, Pilagá [cf. Grondona 1998; Vidal 2001); Jêan (Kaingang, Xokléng?); Makúan (Dâw [Martins 2004: 536–541]); Matacoan; Mascoyan (apparently, see Grubb [1914: 319]); Nambikwaran (Mamaindê [Eberhard 2009: 388], Sabanê [Antunes de Araujo 2004: 177–182]); Tupían (Tupí-Guaranían [Jensen 1990, 1999], Urubu-Kaapor, Kamaiurá [Seki 1990, 2008], Yuki [Villafañe 2004], Guajajara?, Tupinambá).

Active-stative alignment (also called at times dynamic-stative) characterizes most of the languages of the Chaco region (Adelaar and Muysken 2004: 499; see for Toba, Adelaar and Muysken 2004: 489; Messineo 2003: 61; for Mocoví, Grondona [1998]). Nivaclé (Matacoan) exemplifies active-stative alignment, as in Table 2, where *xa-* signals "1 person sg subject of event [active]", and *tsi-* "1 person sg object of transitive verbs and subject of non-active verbs [stative]".

Table 2. Nivaclé Active and Stative 1st person sg pronominal markers

Active (agentive, event)		Stative (object, state)	
xa-ɸin	'I kiss him/her'	*tsi-ɸin*	'he/she kisses me'
xa-xuʔx	'I bite it'	*tsi-xuʔx*	'he/she bites me'
xa-klan	'I kill it'	*tsi-klan*	'he/she kills me'
xa-waɸ	'I die'	*tsi-ʔwat'ax*	'I was born'
xa-ʔwaklič	'I walk'	*tsi-taɸakes*	'I know'
xa-kumaʔx	'I run'	*tsi-tawaklʔey*	'I forget'

Here, *xa-* is the first person marker for subjects of all transitive verbs and of intransitive verbs that are active (that refer to events, something happening), while *tsi-* marks first person objects of transitive verbs and subjects of intransitive verbs which are non-events (states). Nivaclé stative verbs include, for example: 'to be accustomed to / to become accustomed to', 'to be brave', 'to be drunk', 'to be happy', 'to be home', 'to be pregnant', 'to be skinny', 'to be surprised', 'to be tall', 'to be thirsty/to have thirst', 'to be ripe', 'to bleed', 'to distrust / to mistrust / to be distrustful', 'to fear / to be afraid', 'to forget', 'to get dizzy / to be dizzy', 'to have hiccoughs', 'to hold office', 'to hurry / to be in a hurry', 'to know / to be familiar with', 'to possess / to be the owner of', 'to realize', 'to recognize', 'to remember', 'to suffer', 'to want to go', etc.

This is consistent with one of the parameters along which active-inactive languages can vary (event vs. state), according to Mithun's (1991) survey of kinds of

active-inactive languages. The language she cited as illustrating this type of active-inactive languages was Guaraní. While presumably this kind of alignment should be available to languages anywhere, in fact, this alignment based on event vs. state appears characteristic only in languages of SA, in particular languges of the Chaco region, where Guaraní (though not all of its relatives) is found.

In Guaraní (Tupí-Guaranían branch of Tupían), as in Nivaclé, Active is for predicates denoting events; inactive (i.e. stative) is for predicates denoting states (Gregores and Suárez 1967; Velázquez-Castillo 1996; Mithun 1991). Guaraní verbs take *a-* "active first person" and *che-* "inactive first person" pronominal markers. Lexical roots which take Active marking include: motion (e.g. *guata* 'walk', *jere* 'turn', *ryryi* 'tremble', *syry* 'flow'); human/animate activity (e.g. *jahu* 'bathe', *ñepingyi* 'clean'); inanimate activity (e.g. *guyguy* 'flicker', *kai* 'burn'); actions (e.g. *japo* 'make, do', *ñope*) 'braid'); contact/affect (e.g. *aho'i* 'cover', *piro* 'peel'); cause-motion (e.g. *mondo* 'send', *roja* 'carry'), cause-possession (transfer) (e.g. *jara* 'grab', *monda* 'steal'); transform (e.g. *hesy* 'roast', *pyso* 'stretch'); mental/social actions (e.g. *mondyi* 'scare', j*a*'o 'scold'); perception (e.g. *ma'e*) 'look', *ñandu* 'feel, sense'); emotion (e.g. *pota* 'want', *pena*) 'worry, suffer'); knowledge and belief (e.g. *kuaa* 'know', *rovia* 'to believe'). Lexical roots that take Stative marking include: objects (such as supernatural beings, humans, animates (animals, insects, etc.), plants, inanimate natural objects, inanimate man-made objects, kinship terms, body parts); spatial relations (e.g. *akatúa* 'right', *mbyte* 'middle'); properties: colors (e.g. *hu* 'black', *pyta* 'red'), spatial measure (e.g. *anambusu* 'thick', *puku* 'long'), time-related properties (e.g. *aju* 'ripe', *tuja* 'old'); shapes (e.g. *apu'a* 'round', *pe* 'flat'); other physical properties (e.g. *aky* 'wet' *ne* 'stinky'), socially-defined properties/dispositions (e.g. *ñaña* 'mean', *ka'avo* 'funny'); states: environmental states (e.g. *ka* 'dry', *ypytu* 'dark'), physical states (e.g. *ai* 'rotten', *punga* 'indigestion'), emotional states (e.g. *aguara* 'flattered', *vy'a* 'happy'); spatial disposition (e.g. *aperera* 'scattered', *opyvo* 'backwards'. The distribution of active-stative languages in SA and their properties deserve more careful attention.

3.5.3. Subordinate clauses as nominalizations (few conjunctions of any sort, non-finite verbs). Many SA languages lack subordinate clauses with finite verbs and have instead constructions based on nominalization (non-finite verb forms) of various sorts. Relative clauses in particular exhibit nominalizations.

The following Quechua (Cuzco dialect) examples of subordinate clauses illustrate this:

(2) *Yacha-ni-n* *Pedru* *maqa-wa-**sqa**-n-ta*
know-I-EVID Pedro hit-1OBJ-NOML-3POSS-ACC
'I know that Pedro hit me'
(literally: 'I know Pedro's having hit me').

(3) *alqu qu-wa-**sqa**-yki kani-ru-wa-n*
dog give-1OBJ-NOML-2POSS bit-PAST-1OBJ-3SUBJ
'The dog that you gave me bit me'
(literally: 'your to me having given dog bit me').

(4) *Sinchi kharu-ta-ña, ripu-**spa**-pas manan hayk'aq-pas*
very far-ACC-just go-NOML.SS-FOC NEG ever-FOC
qunqa-sa-yki-chu
forget-FUT-1.3–NEG
'However far I go, I will never forget you'.
(literally: 'as for very far going, I will never forget you')

(5) *Sama-sha-ni-n llank'a-y-ta tukuru-**spa***
rest-PROG-1SG-EVID work-my-ACC finished-NOML.SS
'I am resting because I finished my work'
(literally: 'I am resting, having finished my work').

(6) *Punu-pi ka-sha-**kti**-y, para-sha-ra-n*
Puno-in be-PROG-NOML.DS-my rain-PROG-PAST-3SUBJ
'When I was in Puno, it was raining'
(Literally, 'my being in Puno, it was raining').

(Abbreviations: ACC = Accusative; EVID = personal knowledge Evidential; FOC = Focus; NEG = Negative; NOML = Nominalization; OBJ = Object; POSS = Possessive; DS = switch reference Different Subject; SS = switch reference Same Subject; SUBJ = Subject; 1.3 = 1st person subject acting on 3rd person object.)

Nominalization for subordinate clauses is reported as an areal linguistic trait of Amazonia, where, for example, Derbyshire (1986: 560–561) speaks of "substitutions of nominalizations for relative clause constructions", and Dixon and Aikhenvald (1999b: 9) report that "subordinate clauses typically involve nominalized verbs, with the type of subordination being marked on the verb". Many SA languages have either relative clauses as nominalization or other subordinate clauses also as nominalizations; a few examples are: Arawakan, Cariban, Jabutí, Makúan (Hup [Epps 2008: 828], Nadëb), Quechuan, Tikuna, Tukanoan, Tupí-Guaranían [Tupían], etc.

Most languages of the Chaco, however, do not fit this pattern, with either a subordinate marker introducing subordinate clauses which have finite verbs (as in Matacoan languages) or just plain paratactic adjoining of finite clauses, characteristic of some Guaicuruan languages. Amuesha (Arawakan) also has finite verbs in subordinate clauses and its basic word order is VSO (Adelaar and Muysken 2006: 301). This difference of subordination with nominalized verbs vs. finite verb forms tends to correlate with basic word order. SOV languages generally (and quite probably also OSV and OVS languages, i.e. OV languages) tend to have participial (nominalized, non-finite) subordinate clauses cross-linguistically (Hawkins 1983).

3.5.4. Switch-reference (mostly marked only in subordination). Switch-reference refers to grammatical devices that signal whether a noun (usually the subject of the verb) in a following clause is coreferential or not with a noun of a preceding clause. For example, in Maxakalí (Maxakalían) the same-subject and different-subject contrast is signalled by different conjunctions, as seen in the difference between (7) and (8):

(7) *kapi tɛ po kuan nɛ **ke** ha ku-k^{h}u*
Capi ERG.PAST deer kill and **3SS** FUTURE 3-eat
'Capi killed a deer and will eat it.'

(8) *kapi apu ajkahu **mã** hitsi apu* nõ *__ne__ ŋõr*
Capi CONT run **andDS** his.wife CONT lie.down **andSS** sleep
'Capi is running and his wife is lying down and sleeping' (Rodrigues 1999a: 197)

(SS = Same Subject: DS = Different Subject: CONT = Continuative.)

In Kipeá (Karirían), the contrast is signalled in verbal prefixes of the later clause, as in (9) vs. (10):

(9) *doro si-te bo arãkje mo rada do **di**-wi do tsõho*
then 3-come from heaven in earth for **SS**-become to people
*do **di**-nja nodehẽ*
for **SS**-die also
'Then he came from heaven to earth in order to become people and also to die'

(10) *mo **s**-unu-te Adam **si**-pei-kri **i**-mesu*
ERG **DS**-sleep-NOM Adam **DS**-remove-PERF **DS**-rib
*no tupã **i**-bo bo **si**-nio **i**-buje~woho Eva*
ERG God **DS**-from for **DS**-make **DS**-body Eve
'During Adam's sleep God removed his rib for making Eve's body' (Rodrigues 1999a: 197).

(DS = non-contiguity marker, different subject; SS = same subject; ERG = Ergative; PERF = PERFECTIVE.)

Some other SA languages which exhibit switch-reference marked grammatically are: Arawakan (Bahwana/Chiriana, Pareci, Tariana [Aikhenvald 1999a: 100], Wapishana, Waurá); Aymaran (Torero 2002: 528); Cahuapanan (Cahuapana, Chayahuita [Wise 1999: 334]); Chibchan (Tunebo); Cholón (Torero 2002: 528); Jivaroan (Wise 1999: 334); Makúan (Kakua [Martins and Martins 1999: 265], Puinave); Nambikwaran (Mamaindê [Eberhard 2009: 546–552]); Pano-Takanan; Puquina (Torero 2002: 528); Quechuan (Torero 2002: 528); Tukanoan; Yaguan (Yagua [Wise 1999: 334]); Tupían [Tupí-Guaranían branch: Mbyá, Dooley

(1992)]); Yanomaman; Zaparoan (Arabela [Wise 1999: 333)]). Dixon and Aikhenvald (1999b: 10) report switch-reference marking in a group of western Amazonian languages.

3.5.5. Gender.[21] Gender is found as a grammatical feature in many of the languages. For example, Aikhenvald (2000: 80) reports that more than half of the languages of SA "show gender and/or noun classes", and that "a system of two genders, masculine and feminine, is characteristic of languages of the Jê[an], Gua[j]ibo[an], and Arawá[n] families, some Arawak[an] languages, [and] the languages of Gran Choco [sic, read Chaco]". Dixon and Aikhenvald (1999b: 8–9) consider gender an areal trait of Amazonia and the Chaco. Some specific citations that give a sense of gender distinctions in SA languages include: "Most Arawak[an] languages have two genders in cross-referencing affixes and in demonstratives" (Aikhenvald 1999a: 83). "There is a masculine/feminine gender distinction in third person pronouns in the Southern Jê languages (i.e. Kaingáng and Xokléng)" (Rodrigues 1999a: 185). In Nanti "gender principally surfaces morphologically as agreement on verbal person markers and nominal possessive markers" (Michael 2008: 295). Aikhenvald says "gender assignment is not semantically transparent in a region of southern Amazonia centered on the Purús river basin (where Bolivia, Brazil and Peru meet) which includes languages from the Arawá[n] and Chapacura[n] families and the Pre-Andine subgroups of Arawak[an]" (Dixon and Aikhenvald 1999b: 10). Other SA languages with a gender contrast include: Arawakan (Apuriña, Campa [Corbett 2008]); Arawan languages (Dixon 1999: 298); Cariban (Hixkaryana, Makushi [Corbett 2008]); Chapacuran (Wari' [Corbett 2008]); Chonan languages (Viegas Barros 2006); Itonama (Aikhenvald and Dixon 1999: 369); Mosetenan (Mosetén [Sakel 2004: 86]); Muran (Pirahã [Corbett 2008]); Nambikwaran (Mamaindê [Eberhard 2009: 358–360]); Tukanoan (Koreguaje [Cook and Criswell 1993: 15], Retuarã [Corbett 2008]); etc. Gender was suggested as a Chaco areal trait (see Campbell and Grondona, this volume for details).

As Aikhenvald and Dixon (1999: 361) report, "in Wari' gender assignment is predominantly semantic with a certain degree of opacity (which is characteristic of languages of southern Amazonia)". Lack of semantic transparency also characterizes the gender contrast in languages of the Chaco, where there is natural gender assignment for some male-female distinctions, but most nouns have arbitrry gender assignment. The masculine-feminine gender distinction in principal Chaco languages is not overtly marked on the nouns, but rather is manifested in the demonstratives which reflect the gender of the nouns they modify. For example, Nivaclé (Matacoan) illustrates this in: *na nuʔu* 'this.MASCULINE dog' vs. *ɬa nuʔu* 'this.FEMININE dog' (sex-based gender, semantically transparent), but *na takɸeʔy* 'this.MASCULINE jug, pot' vs. *ɬa tnɑxke* 'this. FEMININE water jug' (arbitrary gender assignment, not semantically transparent). In Chaco languages,

third-person pronouns also have a gender distinction, and Lengua-Mascoy (Enlhet, Enenlhet [Mascoyan]) has a gender distinction also in second person pronominal markers (Sušnik 1977: 98).

In contrast, languages of the Andean area (Dixon and Aikhenvald 1999: 9–10), Mapudungun (Zúñiga 2000: 16), Chiriguano (Tupí-Guaranían) (Dietrich 1986: 92), etc. lack gender systems. On the other hand, Matsigenka and Nanti (languages of the Campan branch of Arawakan) have two intersecting gender systems, one masculine-feminine gender and the other an animate-inanimate gender. For example, in Nanti, adjectives can agree with both the sex-based gender and animacy-based gender of the nouns they modify, for example *imarane* 'big (Masculine.Animate)', *omarane* 'big (Feminine.Animate)', and *omarate* 'big (Feminine.Inanimate)' (Michael 2008: 294–296). Chonan languages (except Gününa Küne) distinguish masculine, feminine, and neuter genders (Viegas Barros 2005: 151).

3.5.6. Noun classifiers. Noun classifiers are grammatical morphemes – sometimes seen as intermediate between grammar and lexicon – that make reference to "some salient perceived or imputed characteristics of the entity to which an associated noun refers" (Allan 1977: 285). Noun classification systems are quite common in Lowland SA (see Derbyshire and Payne 1990; Aikhenvald 2000), reported as an areal feature of Amazonia (Dixon and Aikhenvald 1999b: 8, 10). Some Matacoan languages (see below) have only genitive classifiers for domestic animals in most of the languages, also another classifier for 'game' (animal obtained in hunting) in some of the languages, but no other classifiers. SA languages with classifier systems include: Andoque (Fabre 2002: 193); Arawakan (Aikhenvald 1999a: 80, 83–84; Ramirez 2001: 176–84); Arawan (Derbyshire and Payne 1990: 246, 265); Cahuapanan (Chayahuita [Derbyshire and Payne 1990: 246]); Camsá (Fabre 2002: 182–194); Chocoan (Emberá [Fabre 2002: 193]); Cholón (Torero 2002: 527; Alexander-Bakkerus 2005: 180–181); Cofán (Fabre 2002: 193); Guajiboan (Aikhenvald and Dixon 1999: 373); Harákmbut ("shape morphemes", Harákmbut-Katukinan, Adelaar [2000: 223]); Itonama (Crevels 2007); Karirían (Rodrigues 1999a); Makúan (Dâw, Hup, Yuhup [Martins and Martins 1999: 258; Epps 2007a, 2008: 273–282]); Movima (Aikhenvald and Dixon 1999: 369); Mochica (Torero 2002: 527); Nambikwaran (Antunes de Araujo 2004: 113–124; Eberhard 2009: 348–358; Lowe 1999: 280–283); Sabela (Fabre 2002: 193); Saliban (Piaroa [Mosonyi 2000: 661]); Tukanoan (Barnes 1999: 218–219; Gomez-Imbert 2007b); Tupían (Karo, Mundurukú [Rodrigues 1999b: 116]); Witotoan (Derbyshire and Payne 1990: 246; Fabre 2002: 193; Wise 1999: 319); Yaguan (Yagua [Wise 1999: 319]); Yanomaman; Zaparoan (Arabela [Derbyshire and Payne 1990: 246]); etc.

Nambikwaran languages have color classifiers, used with generic roots for animals or other objects to characterize them or differentiate among types (Leo Wetzels, personal communication).

3.5.6.1. Genitive classifiers. Though classifiers are quite common in SA languages, only a few have genitive classifiers. As Aikhenvald (2000: 147) puts it, "classifiers in possessive constructions are rarer across the world's languages than noun classes or numeral classifiers [… Nevertheless,] possessed classifiers are found in […] a number of South American Indian languages (Nadëb, from the Makú family; Carib[an], Tupí-Guaraní, Jê[an], some North[ern] Arawak[an] and some Guaicuruan languages". Moreover, the "inventories of possessed classifiers vary – from smallish, with two or three terms, to largish, as in South American languages". For example, Karirí (Macro-Jê?) has twelve (Rodrigues 1997), one of which, *enki*, is for domestic animals, while "Northern Jê[an] languages, such as Timbira (Canela Krahô), Kayapó, and Panará, have one generic classifier for all alienably possessed items" (Aikhenvald 1999a: 84). Tupí-Guaranían languages also have two; one for pets, the other for prey [game] (Rodrigues 1997: 73; see Adelaar and Muysken 2004: 480). Bororo (Bororoan), on the other hand, "has two, one for pets and the other for all other alienable possessions" (Rodrigues 1997: 73). Bahwana (Arawakan) "has one classifier for game, and one for domestic animals, e.g. *nu-ɨRa habuRu* [my-DOMESTIC.ANIMAL.CLASSIFIER parrot] 'my parrot'" (Aikhenvald 1999a: 84). Maká (Matacoan) has three genitive classifiers: *-lin-ek* 'domestic animal', *-wut* 'animal that one rides', and *-en-ed-xu'* 'cultivated plant' (Gerzenstein 1996: 56). Possessive classifiers are found, for example, in Nadëb (Makúan), Cariban, Tupí-Guaranían, Jêan, some Northern Arawakan, Guaicuruan, Matacoan, and Mascoyan languages (see Aikhenvald 2000: 147). The genitive classifier construction is illustrated by Nivaclé, where one cannot say directly, for example, 'my cow', but must use the genitive classifier construction with the 'possessive domestic animal classifier', equivalent to 'my-DOMESTIC.ANIMAL.CLASSIFIER cow', as in:

(11) *y-iklaʔ waka* [my-DOMESTIC.ANIMAL.CLASSIFIER cow] 'my cow'

(12) *ɬ-iklaʔ kuwayu* [3SG.POSS-DOMESTIC.ANIMAL.CLASSIFIER horse] 'his horse'

Nivaclé has a second genitive classifier, but no other classifiers, *-axeʔ* 'prey classifier' [hunted animal], as in:

(13) *y-axeʔ tašinša* [my-GAME.CLASSIFIER deer] 'my corzuela (grey brocket deer)'

Examples in some other languages of the Chaco are given in Campbell and Grondona, this volume.

The form in (13) contrasts with the similar form in (14), where *tašinštax* 'goat' (a domestic animal requiring the *-iklaʔ* genitive classifier when possessed) is derived from *tašinša* 'corzuela (deer)' by the suffix *-tax* 'similar to', while in contrast, *tašinša* 'corzuela', as 'game', requires the *-axeʔ* classifer for game animals when possessed):

(14) *y-iklaʔ tašinštax* [my-DOMESTIC.ANIMAL.CLASSIFIER goat] 'my goat'

A different sort of possessive classifier is seen, for example in "Northern Jê languages, such as Timbira (Canela Krahô), Kayapó, and Panará, have one generic classifier for all alienably possessed items" (Aikhenvald 1999a: 84).

The languages of the Chaco area exemplified here are unusual in that they have no other classifiers other than the rare genitive ones. Such unusual systems need to be studied in more detail to understand their role in classifier systems and in language typology generally.

3.5.7. Demonstratives. Numerous SA languages have rich systems of articles and demonstratives (deictics), members of which are distinguished along a number of semantic parameters which often include visible vs. not visible and distance. For example, Hup (Epps 2008: 291) distinguishes proximal, distal, "intangible" (where physical accessibility is lacking or irrelevant), and "alternative" (i.e. 'other'), as in:

Proximate: *núp=g'æt* 'this leaf' (close by)
Distal: *n'íp=g'æt* 'that leaf' (further away)
Intangible: *yúp=g'æt* 'that leaf' (not visible or not physically present)
Alternative: *cɑ̃́p=g'æt* 'another, a different leaf'

Matacoan languages typically distinguish: visible, not visible but known from first hand experience, hearsay/unknown, and dead or moving across the field of vision, as exemplified by Nivaclé in Table 3, which presents only a small subset of the demonstratives of this languages, but does illustrate the main semantic parameters upon which most are distinguished.

Table 3: Nivaclé demonstratives

	Visible	Not visible, known from first-hand experience	Not visible (hearsay, no direct knowledge)	Moving, deceased
Singular Masculine	*naʔ*	*xaʔ*	*paʔ*	*kaʔ*
Plural Human	*napiʔ*	*xapiʔ*	*papiʔ*	*kapiʔ*
Plural Non-Human	*nawaʔ*	*xawaʔ*	*pawaʔ*	*kawaʔ*
Singular Feminine	*ɬaʔ*	*ɬxaʔ*	*ɬpaʔ*	*ɬkaʔ*

The system is interesting of itself, but it also plays an important role in signaling tense and evidentiality in this language (see below). Guaicuruan languages have demonstratives that are distinguished on most of these semantic categories but also on other dimensions as well, for example, extended horizontally, extended vertically, and three-dimensional, as in Abipón *ri* (*di'*) 'this/that' [extended horizontally], *ra* 'this/that' [extended vertically], and *ñi* 'this/that' [three-dimensional] (cf. Klein 2000: 528). Similarly, in Yuki (Tupían, Tupí-Guaranían branch

[Villafañe 2004: 61–65]), demonstrative contrasts are based on the attributes: near/far, singular/plural, presence/absence, lying/standing/sitting/moving, and horizontal/vertical.

3.5.8. Nominal tense, and lack of tense and aspect verbal morphology. A good number of SA languages do not mark tense-aspect directly in verbal morphology, as is so frequently found in languages elsewhere in the world. Treatment of tense and aspect varies significantly across SA languages. It has been suggested that a characteristic of languages of Amazonia is that most verbal categories (e.g. tense, aspect, modality, direction) are expressed through optional suffixes (Aikhenvald and Dixon 1999: 8–9). It is also reported that "tense, aspect, and number are expressed as part of the morphology of location, direction, and motion" in languages of the Southern Cone (Klein 1992: 35). In Jêan languages, tense and aspect distinctions are conveyed by particles and auxiliares, rather than inflectionally (Ribeiro 2006). Several languages of the Chaco and nearby regions do not mark tense or aspect on verbs; rather tense and aspect are either determined from context or signaled by adverbials, deictics, and directionals, a trait of, for example, Matacoan, Guaicuruan, Guaranían, and a few other languages (for discussion of this in Mocoví, see Grondona [1998: 129]).[22]

While some other languages have optional verbal tense-aspect markers and others lack them altogether, still others have "nominal tense". Nominal tense refers to instances where a nominal or part of a noun phrase (and not the verb) carries the tense information for the entire proposition, what Nordlinger and Sadler (2004) call "propositional" nominal tense. It is difficult to judge how widespread this feature is, but it is typologically significant, highly unusual in the world's languages. It is found in, for example, Arawakan (Mawayana [Carlin 2006]), Cariban ("nominal past marking is widespread and obligatory in the Cariban languages" [Carlin 2006: 322]), Movima, Matacoan (Wichí), and Tupí-Guaranían (Sirionó, Yuki [Villafañe 2004: 54–55]). Three eastern Tupían subfamilies, Mundurukú, Awetí, and Tupí-Guaranían, have a formal distinction in nouns between "actual state" and "prospective state", for example Mundurukú *-ək'a* 'house' / *-ək'a-m* 'future house', *-parat* 'sieve' / *-paran* 'future sieve', and *-darək* 'bow' / *-darəŋ* 'future bow'. A three way distinction of "actual state" / "retrospective state" / "prospective state" is found in Tupí-Guaranían (TG), for example **-ok* 'house' / **-ok-wam-* 'future house' /**-ok-weɾ* 'former house', and **uʔí* 'manioc floor' / **uʔí-ɾam* 'future manioc floor' / **uʔi-pwéɾ* 'ex-manioc floor', and in Awetí, as in *i-men* 'my husband' / *i-men-an* 'my future husband' / *i-men-put* 'my ex-husband' (Rogrigues and Cabral this volume). Some languages have nominal tense markers though verbs also can bear tense-marking morphemes (e.g. Yuki), while other languages lack altogether any morphosyntactic marking of tense involving verbs (e.g. Nivaclé). An example can be seen in Sirionó– (Tupí-Guaranían [Tupían], Bolivia):

(15) *Esi-ke* *oso ñá* *ií-ra*
woman-PAST go near water-to
'The woman went near the water'

(16) *Jykv-ke* *uke-rv*
tiger-PAST sleep-PERF
'The tiger slept'
(Schmidtke 2006)

Movima (isolate, Bolivia) has a series of temporal articles, as in Table 4.

Table 4. Movima Articles (temporal)

	Presential (non-past)	Absential (immediate past)	Past
Masculine Sg.	*us*	*kus*	*us (usos)*
Feminine Sg.	*i'nes*	*kinos*	*os*
Neural Sg.	*as*	*kos*	*os*
Plural	*is*	*kis*	*is (isos)*

(Haude 2006: 159)

Thus, the article *os* signals that the referent of the noun phrase does not exist any more, as can be seen in the contrast between (17) and (18):

(17) *la'* *iń* *jo'yaj* *n-**as*** *as-na*
before I arrive OBLIQUE-ART.NEUT.PRESENT house/sit-DIR
'Some time ago I arrived home (where I am now, present)'

(18) *la'* *iń* *jo'yaj* *n-**os*** *as-na*
before I arrive OBLIQUE-ART.NEUT.PAST house/sit-DIR
'Some time ago I arrived home (which no longer exists)'

(ART = Article; DIR = Directional; NEUT = Neutral. Haude [2006: 161])

In Nivaclé (Matacoan), tense is inferred from the demonstratives. In spite of having verbs with long strings of affixes, Nivaclé verbs have no markers of tense. For example:

(19) *yoy* ***na*** *siwanak*
escape DEM.VISIBLE. dorado.fish
'the dorado is escaping' (visible)

(20) *yoy* ***xa*** *siwanak*
Escape DEM.INVISIBLE.EXPERIENCED dorado.fish
'the dorado escaped' (not visible, but known from personal experience)

(DEM = Demonstrative)

Here, (19) and (20) are identical except for the demonstratives. There is no tense in the verb, but nevertheless temporal information is inferred from the demonstratives. In (19), *na* 'this, that' [visible] implies 'present'; in (20), *xa* 'this, that' [known by personal experience, but not visible] implies 'past' (seen previously but no longer present). Nivaclé demonstratives also play an important role in evidentiality in this language (see below).

Whereas in Nivaclé temporal information is inferred from the semantics of these demonstratives, in related Wichí, the tense clitics are overt markers commonly attached to demonstratives and nominals (though they can also be cliticized to other constituents): *-p'ante* 'very remote past', *-te* 'distant past', *-naxi* 'past (more than one day)', *-mati* 'past (earlier that same day)', and *-hila* 'future'. Their occurrence attributes a greater degree of specificity and definiteness to the nominals involved. Some examples are:

(21) *mansana* *Ø-tolu* *Ø-łile-**naxi*** *hohnat* *wit* *hi-kwes*
apple 3-come.from 3Poss-tree-**PAST** ground CONJUNCTION 3-split
'the apple fell from the tree (that we saw yesterday) and split.'

(22) *sinox-**mati*** *atana* *Ø-yił-łi*
dog-**PAST** now 3-die-ITERATIVE.SG
'the dog (from earlier today) is sick now'.

Wichí deictic markers (with four degrees of distance for static demonstratives, and two directions for the dynamic ones, 'towards' and 'away from') are also clitics and can combine with the nominal tense markers, as in:

(23) *sinox-**nax-tsu*** *ya-huy-ey* *tewuk^{w}*
dog-**PAST-DEM.away** 3-go-DIRECTIONAL river
'that dog (from yesterday that goes away from us) is going to the river.'

(24) *halo-**mati-na*** *i-k^{y}o*
tree-**PAST-DEM** 3Act-broke
'this tree (from earlier today, nearby) broke.'

(Terraza 2008: 71–76. See Nordlinger and Sadler 2004, 2008; Tonhauser 2006, 2007, 2008.)

Nanti (Campan branch of Arawakan), though it does not have nominal tense, has temporal pronouns, as seen in Table 5.

Table 5. Nanti temporal pronouns

Person	Recent		Overlapping time		First	
1	*natya*	'I recently'	*natyara*	'when I'	*naketyo*	'I first'
2	*bitya*	'you recently'	*bityara*	'when you'	*biketyo*	'you first'
3m	*itya*	'he recently'	*ityara*	'when he'	*iketyo*	'he first'
3nm	*otya*	'she recently'	*otyara*	'when she'	*oketyo*	'she first'

(3m = 3rd person masculine; 3nm = 3rd person non-masculine)

These are seen in the following two examples:

(25) *bitya* *pok-ak-i*
2RECENT come-perfective-realis
'did you arrive recently?'

(26) *te* *iketyo* *shig-an-ankicha*
NEG 3m.FIRST run-ABLATIVE-RELATIVIZER.CONTRASTIVE.FOCUS
'**He** did not run away first'.

(Michael 2008: 374)

Cholón has an anteriority suffix, *-ke*, which can attach at verbs, nouns, pronouns, and demonstratives; "When *-(k)e* is attached to nominal stems, it expresses belonging, provenance,or material, and it can function as a nominal past marker, indicating a 'former state'" (Alexander-Bakkerus 2005: 133–134).

3.5.9. Evidentiality. Evidentials are defined as grammatical "devices used by speakers to mark the source of and the reliability of their knowledge" (Chafe and Nichols 1986: vii). Aikhenvald (2003: 3) divides evidentials into two types, "those which state the existence of a source for the evidence without specifying it; and […] those which specify the kind of evidence – be it visually obtained, based on inference, or reported information". These can be classified into the following categories based on choices available:

– Systems with two choices: firsthand and non-firsthand, non-firsthand vs. "everything else", reported (or "hearsay") vs. "everything else", sensory evidence and reported (or "hearsay"), auditory (hearing) vs. "everything else".
– Systems with three choices: direct (visual), inferred, reported; visual, non-visual sensory, inferred; visual, non-visual sensory, reported; non-visual sensory, inferred, reported; reported, quotative, "everything else".
– Systems with four choices: visual, non-visual sensory, inferred, reported; direct (or visual), inferred, assumed, reported; direct, inferred, reported, quotative.

– Five-term systems: visual, non-visual sensory, inferred, assumed, reported.
– Six-term systems: visual, sensory, inference, assumption, hearsay, quotative

Aikhevald (2004) considers examples of the first five; Silva (2007) argues for the existence of the sixth type, exemplified by some Tukanoan languages (Desano, Retuarã, and Wanano). This goes against Aikhenvald's (2004: 367) claim that "no systems have been found with all six types (of semantic parameters) expressed". This is exemplified here in Wanano:

Visual

(27a) *~bʉ'ʉ chʉ-dua-re ~da-ta-**i***
2SG eat-DESID-OBJ bring/take-come-1**VIS**.PERF
'We've brought what you wanted to eat.'

Sensory

(27b) *~dubi-a ~ya'a-~ida ta-'a ~di-a*
woman-Pl catch-NOM.Pl come-NOM be.PROG-NOM
*koa-ta-**ra***
NOM.VIS-come-VIS.IMPERF.NON.1
'Women-kidnappers are coming. (I can hear them)'

Inferred

(27c) *yoa-ta-pʉ wiha-tu'sʉ-**ri***
be.far-REF-LOC MOV.outward-just.complete-V.NOM.**INFER**
hi-ra
COP-VIS.IMPERF.NON.1
'They've gone. (They've escaped.)'

Assumed

(27d) *wa'i-~kida ko'ta-ro-wa'a-**a** ~bakaka-pʉ*
animal-PL wait-V.NOM-go-**ASSERT**.PERF forest-LOC
'went hunting animals in the forest'.

Hearsay

(27e) *ti-ro wʉ'ʉ-pʉ wa'a-yu-**ti***
ANPH-SG house-LOC go-**HSAY**.DIFF
'(They said that) he went home.'

Quotative

(27f) *ti-ro* *wɯ'ɯ-pɯ* *wa'a-yu-**ka***
ANPH-SG house-LOC go-**HSAY**.QUOT
'(Someone told me that) he went home', 'he went home (they say)'.

(Stenzel 2004: 346–360)

Abbreviataions: ANPH 'anaporic', DESID 'desiderative', DS 'different subject', ERG 'ergativite', HSAY 'hearsay', PERF 'perfective', VIS 'visual'.

Yuki (Tupí-Guaranían branch of Tupían) has a more nuanced system of evidentials, with morphemes or constructions distinguishing: *-ra/-da* 'speaker is certain because he/she participates/participated in the events related'; *ke- … -ra* 'the speaker experienced firsthand what is related'; *tete* 'the speaker heard/sensed something unpleasant about the hearer', and *tete ra* 'the speaker sensed something unpleasant done by the hearer'; *daie … -ra* 'the speaker bases his/her judgement on the authority of another'; *-re/-de* 'the speaker did not experience it firsthand but is certain of what he/she is saying'; *nai/a ño ke* 'the speaker bases his/her judgement on the authority of another (relating something in the recent past)'; *tete-daie … -ra* 'the speaker only heard about it and it was unpleasant'; *ba chii tagore* 'a supposition about an event in the near future'; *ba chõ de* 'a guess about a past event'; *jãã ta tu gue* 'the cause of an event which probably took place and which caused a previous event'; *ma re … -ra* 'a guess that an event is probable'; and *ño ta tu gue* 'the probability that an event will take place in the near future' (Villafañe 2004: 190–194).

SA languages with evidential marking include: Andoque (Landaburu 2007); Arawakan (Achagua, Bahwana, Baniwa-Kuripako [Ramirez 2001: 157], Ignaciano, Nanti [Michael 2008], Pareci, Piapoco, Piro, Terena, Resigaro, Waurá, Tariana); Aymaran (Torero 2002: 528); Camsá (Fabre 2002: 172); Cariban (Derbyshire 1985, 1999: 53); Arawan (Jarawara, Dení [cf. Dixon 1999: 302]); Barbacoan (Guambiano [Torero 2002: 528]); Cayuvava (Key 1967); Cholón (Torero 2002: 167, 528); Guajiboan (Aikhenvald and Dixon 1999: 376); Itonama (Crevels 2007); Makúan (Dâw [Martins 2004: 487–488; Martins and Martins 1999: 261], Puinave [Girón 2008: 283–289]); Mapudungun (Torero 2002: 528); Nambikwaran (Antunes de Araujo 2004: 138–146; Lowe 1999; Eberhard 2009: 468–487); Paezan (Paez [Landaburu 2007]); Panoan; Quechuan (Torero 2002: 528); Tukanoan (Barnes 1999: 213–214; Landaburu 2007); a few Tupían languages (Gavião, Karo, Kamaiurá, Karitiana, Suruí [Rodrigues 1999b: 119], Yuki [Villafañe 2004: 187–195]); Yanomaman; etc. Aikhenvald (2007a: 29) argues that evidentiality spreads easily in language contact. Evidentiality is an areal feature of the Vaupés Linguistic Area (Epps 2005, 2007b, 2008: 550–553; Aikhenvald 2007a: 13), found in Eastern Tukanoan (cf. Barnes 1990), a few Arawakan languages (e.g. Tariana), and Makúan (Dâw, Hup), and also found in many languages of Amazonia (Derbyshire 1986: 560–561 EPPS 2005).

In Nivaclé (Matacoan), evidentiality, like tense, is inferred from the demonstratives, as, for example, in the following two utterances which are identical except for the demonstratives, and yet they have very different evidentiality readings:

(28) Boca yuʔ-eɬ **pa-pi** River
Boca play-PL DEM.HEARSAY-PL.HUM River
'Boca play(ed) River' (literally, 'Boca played the Rivers') [two soccer teams in Argentina].

The plural demonstrative *pa-pi(ʔ)* [not visible, not known firsthand] shows that the speaker reports this not from firsthand experience, but rather as something reported (hearsay): 'they say that Boca play(ed) River, but I don't know this from personal experience and so I do not affirm whether it is true or not'. This contrasts with (29), which has a different demonstrative:

(29) Boca yuʔ-eɬ **na-pi** River
Boca play-PL DEM.VISIBLE-PL.HUM River
'Boca is playing River' (literally, 'Boca are playing the Rivers').

The plural demonstrative ***na-pi(ʔ)*** [visible] shows that the speaker sees this and therefore affirms it is true – 'Boca is (truly) playing River' (present, first-hand knowledge, visible).

3.5.10. Frustrative. A good number of SA languages have a "frustrative" verbal morpheme, which refers, approximately, to events that were inhibited or which transpired, but were against the desires or hopes of the speaker – the morpheme in general expresses something undesirable. Frustrative grammatical markers are not unknown in other parts of the world, but they seem especially well represented in SA in comparison to elsewhere. An example from Kubeo (Tukanoan, Thiago Chacon, personal communication) illustrates this:

(30) *kũ-rĩ* *dú-a-me yɨ-re*
bite-CONVERB FRUSTRATIVE-PAST-3MASCULINE 1SG-OBLIQUE
'he tried to bite me (but he did not succeed)'

Some SA languages which have the "frustrative" are: Arawakan (Baure, Mawayana, Nanti [Michael 2008]); Cariban (Tiriyo, WaiWai, Wayana); Kwaza (van der Voort 2004), various Tupí-Guaranían (Jensen 1986: 238; Villafañe 2004: 213), Tupinamba, Wayampi, Yuki [Villafañe 2004: 172]); Panoan (Amahuaca); Kwaza; Mosetén; Makúan (Hup [Epps 2008]); Tukanoan (Barasano, Carapana, Kubeo, Tukano); Urarina; and Bora.

3.5.11. Prefixing (vs. suffixing). A number of scholars (mentioned above) have classified SA languages based on whether they were predominantly prefixing or suffixing, or neither. As seen in the discussion of Lafone Quevedo's and Tovar's

language types, prefixing vs. suffixing may be reflective of broad diffusion areas in SA. For example, Lafone Quevedo (above) contrasted the exclusively suffixing pronominal elements of the Andean type (Mapudungun, Aymaran, Quechuan, but also Lule and Vilela) with the prefixing "Atlantic" type (Tupí-Guaranían, Matacoan, Guaicuruan). Most Amazonian languages have prefixes, though typically fewer prefix than suffix positions, and this has been interpreted as a trait of the Amazonian area (Dixon and Aikhenvald 1999b: 9; cf. Doris Payne 1990: 215). Prefixation is also found in Vilela (Adelaar and Muysken 2004: 387), Lengua-Mascoy (Enlhet, Enenlhet [Mascoyan], Grubb [1914: 318]), Yuracaré (Adelaar and Muysken 2004: 476), "PreAndine" Arawakan languages (where suffixes predominate but there are some prefixes, Wise [1986: 636]), and in a number of languages of Tierra del Fuego. It has been suggested that prefixing, particularly of person markers on verbs, is characteristic of languages in and near the Chaco area. A number of languages are exclusively suffixing, for example several languages of the Andean region, Tukanoan languages, etc.

3.5.12. Inclusive-exclusive contrast in First Person Plural pronominal forms. An Inclusive-Exclusive contrast in first person plural pronouns is fairly common in SA. It is not consistent across geographical areas, however, and even within the same language family some languages can have the contrast while others lack it. For example, in Matacoan, Nivaclé (Chulupí), Macá, and Wichí have the contrast, but varieties of modern Chorote lacks it (Campbell and Grondona 2010). It has been reported, for example, in the following languages, either in verbal affixes or independent pronouns or both: Arawakan (Ashéninca, Machiguenga, Nomatsiguenga, Campan languages, Resígaro, etc.); Aymaran; Barbacoan (Awa Pit); Bororoan (Umutina); Cahuapanan (Cahuapana, Chayahuita, Jebero [cf. Wise 1999: 320]); Cariban (Hixkaryana, Piaroa); Cayuvava; Chapacuran (Wari'); Chiquitano; Guajiboan (Guayabero); Itonama; Máko (Migliazza 1966); Mosetenan (Mosetén); Movima; Nambikwaran (Lowe 1999: 283; Eberhard 2009: 435); Pano-Takanan (Araona); Quechuan; Sabela; Trumai (Guiradello 1999: 352); Tukanoan (cf. Barnes 1999: 217; Aikhenvald 2002: 62); Tupían (Chiriguano [Dietrich 1986], Guaraní; Karo, Mekens, Sirionó, Yuki); Uru-Chipayan; Waorani; Witotoan (Aikhenvald 2002: 269); Yaguan; Yanomaman; Zaparoan (Záparo); etc. (cf. Filimonova 2005).

In a number of languages, the inclusive marker appears to be basic and monomorphemic, while the exclusive marker appears to be based on first person singular forms plus a plural suffix on the noun or verb involved, for example, Nivaclé (Matacoan):

(31a) *katsi-tata* 'our [Inclusive] father'

(31b) *yi-tata-ʔeɬ* 'our [Exclusive] father' (*yi-* "1st person sg possessive", *-eɬ* "plural suffix")

(32a) *šta-klan* 'we [Inclusive] kill it'

(32b) *xa-klan-eł* 'we [Exclusive] kill it' (*xa-* "1st person sg active", *-eł* "plural suffix").

Nichols (2003: 304) holds the *inclusive vs. exclusive first person pronoun* opposition "to be genetically the most stable of all the features [she] tested", though she recognizes it can be borrowed. In fact, it is not very stable. In several SA languages there is evidence that the inclusive-exclusive contrast developed due to contact (see Muysken, this volume; cf. Campbell and Poser [2008: 310–312] for other examples and discussion). This is contrary to Nichols' (1992: 181) claims of "high genetic and modernate areal stability" for the inclusive/exclusive contrast. That is, the inclusive/exclusive contrast is typically rather superficial and not deeply integrated in the fabric of the grammar, meaning there is nothing inherent in it which leads to or would result in long-term "stability". As Jacobsen (1980) points out in his survey of western North American languages:

> This category [first person inclusive/exclusive pronominal contrasts] is probably one that *diffuses fairly readily*, as it is purely semantic and not bound to the syntactic structure of a language in a way that, for example, a category of case would be. It is sometimes found to be typical of a whole language family, but may also turn up in isolated members of a family, as, for example, in Choctaw alone in the Muskogean family […] in Yuki alone in the Yukian family […] in Shuswap alone in the Salish family […] or in Kwakiutl but not Nootka in the Wakashan family. [Emphasis added, LC]
> (Jacobsen 1980: 204)

Nichols (1992: 215) "turns this one example [inclusive/exclusive opposition as a global cline] into a more general model of the history of diversity", but her interpretation of the distribution of the inclusive/exclusive contrast in her sample as a global spread relies on a fallacy: it seems to deny that the contrast can and does easily develop spontaneously and independently, as well as by contact.

3.5.13. Directional verbal affixes, locative/directional affixes, signaling the location/direction of the action expressed by the verb (cf. Doris Payne 1990: 223–224). Verbal directional morphemes are found in many SA languages, as for example in Quechua (Cuzco): *apa-mu-y* 'bring it (hither)!' vs. *apa-pu-y* 'take it (thither)!' (*-mu-* 'hither', *-pu-* 'thither', *-y* 'Imperative'). Some SA languages which have them are: many Arawakan languages (Terena, Piro, Campan languages, Amuesha, Ignaciano, Baure, Waurá); Aymaran; Cayuvava (Key 1967; Doris Payne 1990: 224); Chocoan (Epene Pedee [Southern Embera, Harms (1994: 93–97)]); Cholón (Torero 2002: 173, 527); Guaicuaruan; Makúan (Doris Payne 1990: 223; Epps 2008: 140, 341; Martins 2004: 439–443]); Itonama (Crevels 2007); Mapudungun (Torero 2002: 527); Mascoyan (Sušnik1977: 37; Adelaar and Muysken 2004: 498; Grubb 1914: 319); Matacoan; Muran (Pirahã); Nambikwaran

(Mamaindê [Eberhard 2009: 417–418]); Panoan (Shipibo-Konibo [Valenzuela 2003: 268, 272]); Puquina (Torero 2002: 527); Quechuan; Tukanoan; Yagan (Adelaar and Muysken 2004: 572); Yaguan (Doris Payne 1990: 223); Yanomaman; Yuracaré (Adelaar and Muysken 2004: 477); Zamucoan (Chamacoco [Sušnik 1986–1987: 61]). Doris Payne (1990: 226) suggests that these kinds of affixes are not characteristic of Cariban, Tupí-Guaranían, or Jêan languages, though Chiriguano (Tupí-Guaranían) has numerous directionals (Dietrich 1986: 131–136).

Guaicuruan and Matacoan languages have a rich system of directional affixes. Some examples are in:

(33) Nivaclé:

x-an-ʔakxi	'I put it inside'
x-an-ʔapeʔe	'I put it on top'
x-an-čišaʔm	'I hang it up (upward)'
x-an-č'e	'I put it inside (a small space)'
x-an-ʔeʔ	'I put it in' (in its place)
x-an-šaʔne	'I lowered it' (put below)
x-an-šiʔ	'I placed it in (indefinite location)'
x-an-šičaʔm	'I place it (from low toward high)'[23]
xa-p'oʔ-ey	'I close it (direction away)'
xa-naʔš-hop	'I passed beside it'

Toba (Guaicuruan) directionals with and without motion:

> *-wek* 'outward', *-wo* 'inward (of a place with defined boundaries)', *-shigem* 'upward', *-ñi* 'downward', *-axasom* 'toward the water, towards the fire', *-waq* 'toward the fire'; *-lek/-ek* 'on on top of', *-ngi* 'inside liquid, a receptacle, a well', *-gi* 'inside a closed area (house, woods)', *-'ot* 'under', *-asop* 'under (plural), around, with', *aoga* 'in an open area, outside', *-'a* 'in a specific place', *-ta* 'on, at the side of', *-i'* 'there, in a place not far away',*-ge* 'oriented to/in a lengthened place', *-get* 'opposite, facing'

(Messineo and Klein 2007: 130; Messineo 2003: 73, 86–87; cf. Messineo 1996. See Grondona [2002b] for Mocoví and Sandalo [1997: 59] for Kadiwéu directionals.)

Directionals in verbs have been suggested as areal traits of Lowland SA, the Southern Cone, the Andes linguistic area, and the Chaco. That is, they are quite widespread in SA.

3.5.14. Serial verbs. "A serial verb construction is a sequence of verbs which act together as a single predicate, without any overt marker of coordination, subordination, or syntactic dependency of any other sort" (Aikhenvald 2006: 1). Serial verb constructions string two (or more) verbs together in a single clause that express simultaneous or immediately consecutive actions, have a single grammati-

cal subject, and are treated by the grammar as a single grammatical constituent with respect to, for example, tense, aspect, modality, negation, and agreement. Examples are seen in (34) and (35):

Sabané (Nambikwaran)

(34) *manoel alisin-n ip-i-datinan*
Manoel jump-SV run-SV-PAST.EVIDENTTIAL
'Manuel ran and jumped'
(SV = Serial Verb marker)
(Telles and Wetzels, forthcoming)

Tapirapé (Tupían [Tupí-Guaranían branch]):

(35) *ã-šaók we-yytãp-a*
1SG-bathe 1SG.COREFFERENTIAL-swim-SERIAL.VERB
'I'll bathe and (I'll) swim'

Here, the second, dependent intransitive verb *(-yytãp* 'swim') takes the coreferential person marker (*we-*) since its subject is the same as that of the first, independent verb (*-šaók* 'bathe'), and this second verb also bears a suffix that indicates it is a serial verb (Jensen 1999: 157).

Serial verb constructions are found in a good number of SA languages, for example: Arawakan (Achagua, Amuesha, Baniwa of Içana/Kurripako, Bare, Pareci, Piapoco, Piro Tariana, Waurá, Warekena, etc. [cf. Aikhenvald 1999a: 98]); Chapacuran; Chocoan (Epene Pedee [Southern Embera, Harms (1994: 85–86)]); Harakmbet; Makúan (Martins 2004: 621–622, 2007; Epps 2008); Nambikwaran (Sabané [Antunes de Araujo 2004: 189]); Panoan; Muran (Pirahã); Saliban (Piaroa [Mosonyi 2000: 661]); Tukanoan (Gomez-Imbert 2007a); Tupían (Tupí-Guaranían [Jensen 1999: 157]); Yaguan (Yagua); Yanomaman; etc. Aikhenvald (1999a: 98) holds serial verbs to be "an areal property of the languages of the Upper Rio Negro and Colombia," and verb compounding (related to serial verbs) is an areal trait of the Vaupés region (Epps 2008: 328).

3.5.15. Negative polar opposite adjectives. In several SA languages there is a set of adjectives which structurally are negative versions of an adjective with the polar opposite meaning, for example 'bad' effectively being equivalent to 'not good' in its structural composition, 'short' equivalent to 'not tall'. An example is Tiriyó (Cariban) *kure=ta* 'bad, ugly' (< *kure* 'good, pretty', *=ta* 'negative clitic'), found also in other Taranoan [Cariban] languages (Meira 2000: 105). Several languages of the Chaco have a good number of such adjectives, for example: Nivaclé (Matacoan) *ni?isa* 'ugly' [*ni-* NEG + *is* 'pretty, good' + *-a* NEG], *nipitexa* 'short' [*ni-* NEG + *pitex* 'tall, long' + *-a* NEG]; Chiriguano (Tupían, Tupí-Guaranían branch) *púkua* 'short' [*púku* 'long' + *-a* NEG] (Dietrich 1990: 303).

3.5.16. Negative verbal affixes. Some languages, because they have negative verbal affixes, have the equivalent of negative verbal conjugations. It is not clear how widespread this trait may be, but several SA languges have it. Tovar (1961: 195) had as a trait of his Type I languages (of eastern central zones of the continent) that "negation can incorporate another word". It was not clear what he meant, although he indicated that Guaraní has this trait; Guaraní has the prefix *nd-* and suffix *-i* to form negative verbs, as for example:

(36) ***nd**-o-hecha-**i*** *chu-pe*.
NEG-A3-see-NEG 3-NON.ACTIVE.ARGUMENT
'nobody saw him'
(Tonhauser 2006: 156)

It seems probable that Tovar was referring to the fact that several of the languages have negative affixes as part of the verb conjugations. For example, the Nivaclé negative prefix *ni-* was seen above in the polar negative adjectives. A partial Nivaclé negative verb conjugation compared with non-negative counterparts is seen in (37):

(37)	*niʔy-apun*	'I do not despise him'	*x-apun*	'I despise him'
	naʔ-apun	'you do not despise him'	*ɬ-apun*	'you despise him'
	niʔn-apun	'he does not despise him'	*y-apun*	'he despises him'
	niʔy-apun-eɬ	'we EXCL do not despise him'	*x-apun-eɬ*	'we EXCL despise him'

Kadiwéu (Guaicuruan) has *a-/ag-, dga-/dg-, nga-/ng-* as negative prefixes on verbs (Griffiths and Griffiths 1976: 79; Klein 1996).

Puinave (Makúan) has several negative verbal affixes; two common ones are illustrated in:

(38) *ja-**sãn-kí-t*** [3SG-NEG-cry-NEG] 'he didn't cry/doesn't cry' (Girón 2008: 260).

Hup has a verbal negative suffix, as seen in the contrast between the negative and positive in:

(39a) *mangaˇ* *hɨ́d-aˇn* *tə́w-nɨ́h*
Margarita 3PL-OBJ scold-NEG
'Margarita didn't yell at them.'

(39b) *mangaˇ* *hɨ́d-aˇn* *tə́w-ay*
Margarita 3PL-OBJ scold-INCHOATIVE
'Margarita was yelling at them.' (Epps 2008: 726)

Zaparoan languages have negative verbal suffixes; in Iquito, the negative suffixes are limited to particular morphosyntactic contexts (subordinate clauses); in Andoa, they are used in all contexts (Lev Michael personal communication). Dekwana and other Cariban languages (Derbyshire 1999: 51), but not Pemón, have a derivational

negative suffix that transforms verbs into a negative adverbial complement of a copular verb.

3.5.17. Discontinuous negative. Some SA languages have a discontinuous negative construction, though how widespread this may be is at present unknown. Discontinuous negative constructions are not especially uncommon in the world, found in, for example, Choctaw (Muskogean), French, K'iche' (Mayan), Hausa, varieties of Arabic and Berber languages, some Zapotec languages, etc. Some examples from SA languages follow:

Amuesha (Arawakan): "the negative adverb *ama* (Quecha loan) precedes the verb, and a negative sentence qualifier *-e/-o or -aʔ* 'not yet/distant' is suffixed to the verb" (Wise 1986: 616)

Canela Krahô (Jêan): *nee … nare* 'but, not even'

(40) *i-picahur ne nee I-cator nare*
I-ran and NEG I-arrive NEG
'I ran but didn't (even) arrive' (Popjes and Popjes 1986: 149). (This is used only in a second clause coordinate construction.)

Kamaiurá (Seki 2000: 329): *na- … -ite* (*na-* NEG proclitic, *-ite* NEG suffix).

Nivaclé (Matacoan): *niʔ-apatox-a* [NEG-deep-NEG] 'it is not deep'.

Lengua-Mascoy (Enlhet, Enenlhet [Mascoyan]) (Sušnik 1977: 89): *m- … -ak* 'simple Negative', *m- … -e* 'Future Negative, Necessive Negative'.

Quechua (Cuzco): *mana yača-ni-ču* [NEG know-I-NEG] 'I do not know' *(-ču* 'Negative Clitic').

Tupí-Guaranían: *n- … -i* (Jensen 1999: 154), Guaraní *nd- … -i* (Tonhauser 2006), Yuki *ma … jiri* (Villafañe 2004: 177).

Hupda (Makúan): *ńæ' … -nɨ́'h (*reinforced negations, e.g. 'not a single, not at all') (Epps 2008: 736).

Other examples include Eastern Tukanoan and Tariana (Arawkan [Aikhenvald 2002: 134–136]).

3.5.18. Unspecified possessor marker (affixed to bound noun roots denoting unpossessed forms). In several languages, inherently (inalienably) possessed nouns, and in some languages also other unpossessed nouns as well, must be marked by an affix when not possessed or when the possessor is not known or not specified. Similar affixes in Mesoamerican languages have been called "absolutives" (after the term in Nahuatl linguistics, not to be confused with absolutive case). Most language families in the Chaco have such an affix, though it is often not cognate even

across related languages of the same family. The following examples contrast the unspecified possessor form with a possessed form:

– Ayoreo (Zamucoan): *g-oka:do* '(sombody's) knee'; *dZ-oka:do* 'my knee'; *p-édo* '(somebody's) eye', *dZ-édo* 'my eye' (Sušnik 1986–1987: 75).
– Compare related Chamacoco: *os-arï* '(somebody's) ear', *-arï* 'ear' (Sušnik 1986–1987: 75).
– Chorote (Matacoan): *n-isyen* '(somebody's) meat', *t'-isyen* 'his meat'; *in-t'ek* '(somebody's) grandfather'.
– Mocoví (Guaicuruan): *n-aʔat* '(somebody's) meat', *l-aʔat* 'his/her/its meat'.
– Nivaclé (Matacoan): *wat'-asxan* '(somebody's) meat', *t'-asxan* 'his/her/its meat' *wat-šateč* '(somebody's) head', *ɬ-šateč* 'his/her/its head'.

Others include various Arawakan languages (Baniwa, Campan languages [Michael 2008: 300], Yanesha' [Adelaar and Muysken 2004: 427], etc.), various Tupían languages (Tupinamba, Karo, Suruí [Monde], and Tupí-Guaraní languages [Jensen 1999: 153]), Jêan (Xerente, for example), etc.

A question for further investigation is how unusual (or how common) such affixes are in languages with an alienable/inalienable distinction. In a great number of languages in the Americas kinship terms and body parts are inalienably possessed. That is, one cannot say the equivalent of 'a father', 'the aunt', 'the daughter', 'a son', 'an arm', 'the leg', etc.; rather, as inalienably possessed items, they require possessive pronominal marking (equivalent to 'my father', 'our aunt', 'his arm', 'your leg', etc.). In many of these languages there is a grammatical morpheme equivalent to those given above for unspecified possessor, which allows for the possibility of saying more or less the equivalent of, for example, 'a head, definitely possessed by someone, but it is unknown by whom or in this context it is not convenient to specify the possessor' – the translation would be, thus, not precisely 'a head' or 'the head', but closer to 'some unknown/unspecified person's head [still possessed]'. Perhaps such a morpheme is typologically unusual only from the perspective of European languages which generally lack the alienable-inalienable grammatical distinction prevalent in so many languages of the Americas.

3.5.19. Adjectives lacking or limited to a very small set. It is often commented that several SA languages, especially those of Amazonia or of lowland SA, either lack a distinct category of adjectives, or that adjectives constitute a very small lexical set. As Doris Payne (1990: 220–221) notes, modification of nouns "is often achieved by suffixing a classifier or other modifying affix to the noun […] a syntactic noun can modify another noun […] a modifying word can be formed by adding various suffixes or prefixes to non-modifying stems". Claims about whether certain Amazonian languages lack a category of adjective or not have been varied and controversial (see Dixon 1982; Dixon and Aikhevald 2006; Gildea, this volume). Most languages associated with the Macro-Jê hypothesis seem to lack ad-

jectives as an independent category, with adjectival meanings expressed by nouns or descriptive verbs (Ribeiro 2006).

4. Survey of typological traits by regions

I turn now to the distribution of some typological traits which have been thought characteristic of particular regions of the continent. The goal in this section is not to define linguistic areas in SA per se, but to get some sense of the geographical distribution of certain prominent typologifcal traits in SA. (For discussion of some phonological traits, see above. For linguistic areas of SA, see Campbell [1997: 346–352]; see also Campbell and Grondona, this volume.)

4.1. Some putatively widespread traits

David Payne (1990) identified some traits as widely shared across SA languages. It is worth mentioning these.

(1) A negative morpheme approximately of the shape *ma*, in Amarakaeri [Harakmbet], Arawakan, Arawan (Madija-Culina), Cariban (Hixkaryana), Jêan (Apinayé), Makúan (Nadëb), Mapudungu, Muran (Pirahã), Quechuan, Panoan-Tacanan, Tukanoan (Tucano), Tupían (Proto-Tupían), Yanomaman (Yanomamɨ), Yaguan (Yagua), etc. Ignaciano (Arawakan) has a *ma-* "privative" prefix, meaning 'without, not having' (Wise 1990: 99). This is interesting, but it may not be necessary to assume historical connections among the various languages which have this, since *ma*-like negatives occur with some frequency in languges around the world (e.g. Afro-Asiatic, Indo-European, Mayan, Nakh-Daghestanian (Northeast Caucasian), Northwest Caucasian, Sino-Tibetan, Svan [Kartvelian], Turkic, etc.). Affixes and short grammatical morphemes that are most salient in their meanings tend worldwide to be signalled by unmarked, perceptually highly salient consonants; given that nasals are the most perceptually salient consonants of all, it is not surprising that they tend to be found in negative markers.[24]

(2) A causative affix of the approximate shape *mV*, in Arawakan (Apuriña, Campan, Baniwa-Kurripako [Ramirez 2001: 147, 155)]); Cariban (Apalaí, Hixkaryana); Chonan (Ona, Tehuelche); Jivaroan (Aguaruna); Lule-Vilela [Viegas Barros 2001: 71]; Makúan (Nadëb); Mapudungun; Pano-Takanan; Muran (Pirahã); Trumai; Tupían (Mundurukú, Tupinamba, Tupí-Guaranían [Proto-Tupí-Guaranían **mo-* (Villafañe 2004: 123)]); Yuracare; and Yanomaman. It is also possible that some of these are due just to chance; however, it is interesting that this trait is shared by so many languages. Again, it is probably not necessary to assume a historical connection, since the form is short, mostly just an *m* (or a *p* in some instances), a frequent and perceptually salient, unmarked consonant, so that accidental similarity is possible (see Campbell and Poser 2008: 200–202).

(3) Another causative verbal prefix, usually a single back vowel: Amarakaeri [Harakmbet]; Arawakan (Achagua, Amuesha, Campan languages, Guajiro, Garífuna, Lokono, Palikur, Parecís, Waurá, [Wise 1990: 103–108]); Arawan (Madija-Culina); and Jivaroan (Aguaruna). This would appear to have a more limited distribution than the *mV*-like passives, more northerly. As a very short unmarked segment, it is not difficult to imagine accidental similarity as an explanation; however, prefixing is not so common, which makes this interesting in the languages which have it, though it is not found throughout SA languages.

(4) A directional verb suffix, locative suffix of the shape *pV* or *Vp* (Quechuan, Mapudungun [Araucanian], several Arawakan languages, and Yagua). The languages listed as exhibiting this trait may seem limited in number. However, this may depend on how one looks at it. If seen as a general locative/directional morpheme not limited just to verbs, examples abound: Atacameño *-p(a)s* 'allative' (Adelaar and Muysken 2004: 385); Nivaclé *-apeʔe* 'on' and Chorote *-apé* 'on' (Gerzenstein 1978–1979: 113) (Matacoan languages); Proto-Tupí-Guaranían *pypé* 'locative' (cf. Chiriguano *-pe* 'locative' [Dietrich 1986: 56], Kamaiurá 'locative' *-ip* [*p, m, ip, im*] [Seki 2000: 109]); Cholón *-pi* 'direction towards' (Torero 2002: 172); Mapudungun *-pa* 'hither', *-pu* 'thither', *-me-* 'motion away', *-pa-* 'motion towards the speaker or location near the speaker (hither)' (Zúñiga 2000: 41; Adelaar and Muysken 2004: 534); Quechuan *-pi* 'in', *-pu* 'direction away'; Ingaricó [Kapon, Cariban language] *-pïʔ* 'in, on, for, by' (Sousa Cruz 2005: 407). Wise (1986: 590) reported "the directional category common to all of the PreAndine Arawakan languages is the adlative, 'arriving' encoded by *ap*" (see also Payne [1981]). It is not certain here whether this is just an accidental assembly of seemingly similar forms – short and possibly only accidentally similar – or whether there may be some historical explanation, diffusion or inheritance, or a combination of both. Additional examples could be compounded.

(5) An auxiliary 'to have, to do, or to be', usually containing *ka*, often coinciding in the same language with the lexical verb 'to say, to work' and often with a valency-changing verbal affix of the same or similar shape: Amarakaeri [Harakmbet]; Arawakan; Arawan; Aymaran (Aymara, Jaqaru); Cariban (Hixkaryana, Apalaí); Makúan (Nadëb); Muran (Pirahã); and Quechuan. Again, this is a short form with a common, unmarked consonant, so possibly only accidentally similar. There is internal evidence that in some of these languages some of the forms have arisen through independent innovation with no direct historical connection with any of the other languages. For example, the several Quechuan suffixes with *-ka-* vary in form and meaning from dialect to dialect and are rather recent developments involving different grammaticalizations of the independent verb *ka-* 'to be'.[25]

One other general trait mentioned variously in different publications can be added. It has to do with morphological complexity and is referred to variously as a high degree of polysynthesis or as complex verb morphology. As mentioned at the

beginning of this chapter, polysynthesis usually means a language has complex words composed of many morphemes, where a single word can function as a whole sentence, roughly equivalent to morphological complexity and not particularly exciting as a typological trait, since many languages are characterized by polysynthesis, true also of the majority of indigenous languages of Central and North America, as well. Doris Payne (1990: 221) mentions a rich and complex verb morphology as characteristic of lowland SA languages, but this is actually true of most languages in SA.[26] Numerous languages of the Andes, Chaco and elsewhere in the Southern Cone, and others are known to be polysynthetic, morphologically quite complex.

With regard to SA linguistic areas in general, much more investigation is needed in SA, though there are good preliminary indications for some regions (Campbell 1997: 346–352). Even now, however, it seems safe to say that most regions are not sharply distinguished from neighboring regions with respect to most of the linguistic traits found in them (see Campbell and Grondona, this volume). For example, in Tovar's (1961; Tovar and Tovar 1984) areal "types", his Quechua and Amazon types did not have clear frontiers, but rather exhibited overlapping features, with Lule-Tonocoté, Leco, and Mosetén as transitional between Type I ("unformed, incorporating") and Type II ("agglutinative") (Tovar 1961: 198). He calls his Type IV the "Amazon" or "mixed" languages, with characteristics of the other three. Similarly, Dixon and Aikhenvald (1999b: 9) list numerous differences between the Andean and Amazonian languages, but nevertheless conclude that "there is no sharp boundary between the Andean and Amazonian linguistic areas – they tend to flow into each other". The Chaco has been thought to be a linguistic area, too, although there is not a single linguistic trait found in languages of the Chaco that is not found also in languages beyond the region. Similarly, Constenla Umaña (1991: 129) speaks of a less strong boundary between the Amazonian area and his Colombian-Central American area in spite of some unshared traits in the two areas.

We look now more specifically at some of the linguistic areas proposed for SA and the traits thought to distinguish them.

4.2. Amazon(ian) Linguistic Area *(Derbyshire 1987; Derbyshire and Payne 1990; Derbyshire and Pullum 1986; Dixon and Aikhenvald 1999b: 8–10; cf. Campbell 1997: 348–350; Doris Payne 1990)*

Numerous similarities among Lowland SA languages have been pointed to, in varying geographical configurations given several names, of which the "Amazonian area" has had the most use. Some of the linguistic traits which have been suggested as characteristic of Amazonia are:

Noun classifiers or gender systems. Many of the languages have extensive classifier and/or gender systems (Dixon and Aikhenvald 1999b: 10), see above.

Head marked possessor constructions, with order Possessor Possessed [GN] (e.g. 'the man his-canoe' for 'the man's canoe'), where possession (either alienable

or inalienable) is typically marked on the possessed noun, not on the possessor (Dixon and Aikhenvald 1999b: 8–9). This, however, would seem inconsistent with Derbyshire's (1986: 560–561) observation that nominal modifiers follow their head nouns; it is important to register such inconsistencies and to try to understand what may explain them. In any case, head-marking, including this possessive construction, is shared widely in the Americas.

Derbyshire (1986: 560–561) adds as an areal trait of Amazonia "the regularity with which one particular set of phrase constituent orders is being reported: POSTP [Postposition], GEN-N [Genitive-Noun], N-ADJ [Noun-Adjective], almost regardless of what the word order is in main clauses."

Only one core argument cross-referenced on verbs (Dixon and Aikhenvald 1999b: 8). This would seem to conflict with Derbyshire's (1986: 560–561) claim that Amazonian languages have "verb agreement with Subject and Object". Derbyshire (1986: 560–561) claimed that in the Amazonian area there is a "high proportion of sentences which do not contain subject and object nominals, but often only a verb". This would appear to correlate with the cross-referencing verb morphology, and this may be true in general of languages with extensive cross-refereecing morphology for subjects and objects. Chaco languages also tend to have only one argument cross-refenced on the verb, and as with Amazonian languages, many sentences are composed of a verb only without overt nominal arguments. In contrast, in the Andean area, two core arguments tend to be marked, in an accusative system. Doris Payne (1990) reports that:

> Prefixes agreeing with both subject and object are found in Cariban, Tupí-Guaraní, some Jê languages, Zaparoan, Andoke […] some Guaykuruan languages, and Makú. Prefixes indicate subject agreement, and suffixes or enclitics indicate object agreement, in Preandine Maipuran Awarakan, Cayuvava, Yagua, and the Guaykuruan language Toba. Agreement is exclussivly suffixal in Guajiro (Arawakan), Tucanoan, Witotoan, and Panoan.
> (Doris Payne 1990: 221)

Examples of languages fitting these categories could easily be multiplied.

Prefixes, few suffixes. As mentioned above, the distribution of prefixing vs. suffixing may reflect broad geographical patterning in SA languages.

Subordinate clauses involving nominalized verbs, "substitutions of nominalizations for relative clause constructions" (Derbyshire 1986: 560–561). This trait, however, is not independent of word order, where SOV (and quite probably also OSV and OVS) languages tend to have participial (nominalized) subordinate clauses with no finite verb. It is also quite widespread in languages beyong Amazonia.

In many languages, *adverbs and adpositions can be incorporated into the verb*, following the verb root. This is also true of a number of languages elsewhere in SA, for example in the Chaco and the Andean regions, which have a rich set of adpositions, directionals, and adverbial morphemes which attach to verbs as clitics or suffixes (see above).

Very small set of lexical numbers. This may be a true feature of the Amazon, though languages vary considerably with regard to the number and kind of numerals they have. A number of SA languages have a very limited set of true numerals, some with only 'one', 'two', and 'three', some others with up to 'four' but not beyond. Aikhenvald (1999a: 85) reports that "most [Arawakan] languages have just the numbers 'one' […] and 'two'." Lule (Lule-Vilelan) has only four basic numbers (Adelaar and Muysken 2004: 391), and Toba (Guaicuruan) appears to have had only four in pre-Columbian times (Klein 1996: 87). Modern Mocoví (Guaicuruan) has borrowed all its numbers from Spanish (Grondona 1998: 91). Chiriguano and Guaraní (Tupí-Guaranían branch of Tupían) have numbers to 'five' (Dietrich 1986: 169). Many SA languages have aquired larger numeral systems in recent times through borrowing from Portuguese or Spanish. For example, Ninam (Yanomaman) has no fixed native numerals, such as 'one', 'two', 'three' – Western counting was completely unknown – the only words similar to numbers are the quantifiers (cited from Northern Ninam):

mõri 'very few', 'alone' – to convey the meaning 'one only', one must indicate it by showing one finger.
yarakep 'few' 'more then one'
yarami 'many'

The first Protestant missionaries introduced Portuguese numbers to the Ninam; some now count up to 'five', counting on their fingers but using Portuguese numbers (Ernesto Migliazza personal communication). Situations such as this may help illucidate the recent debate about counting and cognition surrounding claims that Pirahã (Muran) lacks true numerals (see Everett 2005, 2008, 2009: 424–425; Frank et al. 2008; Gordon 2004; Nevins et al. 2009).

In other regions, the numeral systems vary considerably. It is difficult to find more than a few native number terms in Wichí (Matacoan); beyond 'three' all are from Spanish. Since the related Matacoan languages Nivaclé and Chorote have reasonably complex numeral systems (at least to 20, cf. Hunt [1915: 41]), though now in decline in the face of Spanish borrowings, it is possible that Wichí once had a richer native numeral system, though it is also possible that the more ample system of numbers in these sister languages developed later, inspired through contact with Spanish. The form of the higher number terms varies considerably from speaker to speaker, and it is possible to imagine this as potential evidence that either a late system developed on analogy with Spanish or an earlier system existed, now being replaced by Spanish numbers. "Zamuco" (Ayoreo, Zamucoan) has native numbers at least to ten, both cardinal and ordinal (Lussagnet 1958: 136–137). Andean languages, Quechuan, Aymaran, Atacameño (Adelaar and Muysken 2004: 385), and Mapudungun (Zúñiga 2000: 15), for example, have quite complex numeral systems. Proto-Chonan reached to 'six', while some individual Chonan languages have terms for up to a 'thousand' (Viegas Barros 2005: 134).

In short, numeral systems in SA vary greatly, but Amazonia has no corner on the market for systems with few number words.

Lack of an agentive passive construction (Derbyshire 1986: 560–561). However, it is very common in languages generally for passive constructions to lack an overt agent, lacking the equivalent of the agentive *by*-phrase of examples such as English *the iguana was captured* ***by the small boy***.

Complex verb morphology (more complex in Arawakan, but fairly extensive also in the other Amazonian language families) (Derbyshire 1986: 560–561). This trait, as seen above, however, is common to many SA languages from all regions.

Tendency towards ergatively-organized syntactic systems (not so strong in Arawakan as in the other families) (Derbyshire 1986: 560–561). This needs to be investigated much more thoroughly, as mentioned above, particularly to sort out cases of active-stative languages which may have been inaccurately characterized as ergative. For example, Maká (Matacoan) and Kadiwéu (Guaicuruan) are active-stative languages which are sometimes characterized in the literature as ergative (cf. Sandalo 1997, 2002; Gerzenstein 1995, 1996). (See above for discussion of active-stative languages in SA generally.)

Evidential markers: Use of "*phrasal discourse (and possibly verification) particles*" (Derbyshire 1986: 560–561). Evidentiality systems are found in many SA languages (see above for examples), not just in Amazonia.

"There are very *few oblique cases* – often just a locative and an instrumental/comitative" (Dixon and Aikhenvald 1999b: 8). This is also not limited to just Amazonia.

Finally Beier et al. (2002) argue that Greater Amazonia constitutes a "*discourse area*" in which the discourse practices shared across families include ceremonial dialogue, templatic ratifying, echo speech, ritual wailing, parallelism (patterned repetion), etc. This may be a true areal feature, though perhaps as much cultural as structural in the languages involved.

(For proposals of other shared traits in the area and for details, see Dixon and Aikhenvald 1999b: 8–9; Derbyshire 1986: 560–561; Derbyshire and Pullum 1986: 16–19; Campbell 1997: 348–350.)

4.3. Lowland South American Linguistic Area *(Doris Payne 1990; David Payne 1990; Klein 1992: 33–34; cf. Campbell 1997: 350–351)*

Lowland South America has been suggested as a possible linguistic area, but it is not well defined and tends to overlap the Amazonian area significantly. Some shared features have been listed, though Constenla Umaña (1991) challenges most of these (Campbell [1997: 351] challenges others). Doris Payne (1990) looked at potential areal features in verb morphology for all of lowland SA languages. She found two broad typological groups, a western and an eastern group. The languages of the western group, forming a rough crescent towards the eastern border

of the Andes, include languages from Pano-Takanan, Arawakan, Tukanoan, Sáliban, Zaparoan, Yaguan, Witotoan, and Cahuapanan families. This group is characterized by a high degree of polysynthesis; directionals in the verb (which may have tense-aspect-modality functions); noun classification systems (missing in Pano-Takanan and some Arawakan languages); and verb-initial and postpositional orders (found in some Arawakan and some Zaparoan languages, in Taushiro, and Yagua). Payne's eastern group includes languages belonging to the "Jê-Bororo", Tupían, Cariban, and Makúan families. They share: a somewhat more isolating (analytic) typology; minimal or no directionals in verbal morphology; and lack of noun classification. It is possible that this western group constitutes one very large diffusion area, which would include the languages of the Chaco region at least for most of these "western" Lowland traits.

4.4. Andean Linguistic Area *(Adelaar and Muysken 2004; Büttner 1983; Constenla Umaña 1991: 123–124; Dixon and Aikhenvald 1999b: 9–10; Campbell 1997: 347–348; see Adelaar and Muysken 2004; Adelaar, Middle Andes, this volume; Torero 2002).*

Büttner's (1983: 179) "central highland Andean region" includes Aymaran (Aymara, Jaqaru), Quechuan varieties, Callahuaya, and Chipaya-Uru, but is defined primarily on the basis of shared phonological traits. Clearly, the Andean linguistics area should also include a number of additional languages (cf. Adelaar and Muysken 2004; Adelaar, Middle Andes, this volume).

The extensive diffusion and convergence between Quechuan and Aymaran is well-known. They are both SOV in order, suffixing; they both have considerable congruence in their morphological structure, and have many shared clearly similar lexical items, presumably loans. Puquina, on the other hand, a formerly influential language of the area (now extinct), seems to lack several of the assumed Andean phonological traits (see Adelaar, Middle Andes, this volume). The extent to which unrelated languages of adjacent zones of SA share any of these traits needs to be investigated more carefully.

Constenla Umaña (1991: 123–125) has proposed an even broader Andean area, which includes his *Ecuadoran-Colombian subarea*, i.e. the languages of highland Colombia, Ecuador, Peru, and Bolivia. Most of the shared traits he finds in the area are phonological, but also include Adjective-Noun order, clause-initial interrogative words, an accusative case, a genitive case, and a passive construction. He also finds that some languages situated to the east of the Andes could be incorporated into the Andean Area, for example those with Adjective-Noun [AN] order and with the absence of the high-mid opposition in front vowels – no phonemic [e] or [o] (Constenla Umaña 1991: 136). This is in the same vein as Dixon and Aikhenvald's (1999b: 9) conclusion that "there is no sharp boundary between the Andean and Amazonian linguistic areas – they tend to flow into each other" (see

also Tovar's [1961] Type III, Amazonian languages, mixed with traits from his other types).

4.5. Colombian-Central American Area

Constenla Umaña (1991: 126–129) lists as general traits of the languages in what he identifies as the Colombian-Central American Linguistic Area: a voicing opposition in obstruents; exclusively SOV basic word order, postpositions exclusively, predominantly Genitive-Noun order, Noun-Adjective almost exclusively, Noun-Number order; predominantly suffixing or postposed particles for negation; absence of gender in pronouns and inflectional morphology; absence of accusative marking; and absence of an alienable-inalienable possession contrast. The absence of an alienable-inalienable contrast in possession is noteworthy, since many languages throughout the Americas have the contrast. The word order traits correlate with SOV order, where Noun-Postposition and Genitive-Noun orders are expected. Earlier it was thought that Adjective-Noun (AN) order correlates with SOV, though Dryer (1988; WALS [http://wals.info/feature/87]) has shown this is wrong, that "NAdj order is more common than AdjN order, both among OV languages and among VO languages", and in keeping with this, "NAdj is the majority type in South America, again with many scattered exceptions" (http://wals.info/feature/87). Dryer poses a question for further investigation that is very relevant to SA research, namely, "whether distinguishing among different sorts of languages on the basis of the extent to which adjectives are a distinct word class (or subclass) might lead to new generalizations relating to the order of adjective and noun" (http://wals.info/feature/87).

The absence of accusative marking may be unremarkable, perhaps typical of most SA languages outside of the Andes.

4.6. Orinoco-Amazon Linguistic Area *(Migliazza 1985; cf. Campbell 1997: 348)*

Migliazza (1985) identified the Northern Amazon Culture Area as constituting a linguistic area, with 23 languages:

Yanomaman family: Ninam (Yanam), Yanomam, Yanomamɨ
Sáliban (Sálivan): Piaroa
Arawakan: Baniwa [Karútiana-Baniwa], Wapixana, Baré, Mandahuaca, Warekena, Baniva (Yavitero)
Cariban: Panare, Yabarana [Mapoyo-Yavarana], Mapoyo, Yekuana, Pemón, Kapong, Makuxi, Waiwai, Waimirí, Hixkaryana, Warikyana
Unaffiliated: Jotí, Uruák [Ahuaqué], Sapé [Kaliana], Máko

More than thirty other languages that existed around 1800 in this area are now extinct.

Some common typological traits of the area include: ergative alignment (except for a few Arawakan languages); O-before-V (SOV or OVS) word order (except a few Arawakan languages); lack of an active-passive distinction; relative clauses formed by apposition and nominalization; suggestion of diffusion from west to east of nasalization, aspiration, and glottalization (Migliazza 1985: 20, 118). Most of these traits have been proposed in connection with the Amazonian area (though not the phonological ones of diffusion from west to east).

4.7. Venezuelan-Antillean Linguistics Area *(Constenla Umaña 1991: 125–126; Campbell 1997: 347)*

This area includes several Arawakan languages (e.g. Taino, Island Carib, Caquetío [cf. Loukotka 1968: 128], Locono [Lokono]), various Cariban languages (e.g. Cumanagoto, Chaima, Tamanaco, Cariña), and languages isolates or small families (Guamo, Otomaco [Otomacoan], Yaruro, and Warao). The traits shared in this area are: absence of voicing opposition in obstruents; exclusively VO word order (absence of SOV); Numeral-Noun order, Noun-Genitive order, prepositions (Constenla Umaña 1991: 125–126). Constenla Umaña (1991: 136) suspects that this area could be extended towards the south to include the western part of the Amazon culture area (Amazonia) where Arawakan languages with VO word order predominate. The other word order traits are those expected to correlate with VO word order (Numeral-Noun, Noun-Genitive, prepositions). Perhaps the absence of a voicing opposition in obstruents is unremarkable, since many SA languages lack this, as do many languages everywhere.

4.8. Vaupés(-Içana Basin) Linguistic Area *(North Arawakan [Tariana], Eastern Tukanoan, and Makúan) (Aikhenvald 1999b, 2002; Epps 2005, 2007b; Gomez-Imbert 1996; Stenzel 2005)*

Linguistic traits of the Vaupés-Rio Negro area have been much discussed. This is a small diffusion area; much of what has been written about it involves the fact that Tariana, an Arawakan languages, has departed from some typical Arawakan features in the direction of Tukanoan languages (but see also Epps [2005, 2007a, 2007b] for involvement of other languages). Traits of the area that have been proposed include: tonal contrast (low level, often called pitch accent), classifiers (used with demonstratives, numerals, and in possessive constructions), topic-advancing verbal derivation, cross-referencing clitics, nominative-accusative alignment in which there is one case for topical non-subjects, evidentiality systems (with four to five evidentials), two futures, serial verbs (verb-compounding patterns), a system of core case marking (cf. Zúñiga 2007), switch reference, [ᵈy] or [dʒ] as word-initial variant of /y/, nasalization as a prosodic feature (Aikhenvald 2002: 45, 68, 267, 2006a: 13–14), and an associative plural (a suffix on nouns, typically a per-

son's name, meaning 'those associated with the person named') (Aikhenvald 2006b: 277). It should be noted that several of these traits are not limited to just the Vaupés area, but have a wider distribution, though the area may have substantial support from the number and kind of shared traits among the languages in it.

4.9. The Chaco

The Chaco region has some 20 languages from 6 language families: Guaicuruan, Lule-Vilela, Mascoyan, Matacoan, Tupi-Guaranian (branch of Tupían), and Zamucoan. Various traits have at times been considered typical of these languages (see Campbel and Grondona, this volume, for details). Grammatical gender is an area-wide trait of Chaco languages, as is the presence of an unspecified possessor marker for possessed nouns. Most Chaco languages have SVO word order, though not Mascoyan or Lule. Most have active-stative verb alignment. Chaco languages typically have a very complex set of directional verbal affixes. Several Chaco languages lack verbal morphology signaling tense, with nominal tense instead, for example Guaicuruan, Matacoan, Tupían (Guaraní, Tapiete, Chiriguano). Languages of the Chaco have complex demonstative systems (with at least a visible vs. not visible contrast, and usually contrasts involving several other semantic parameters), and several have polar negative adjectives. Genitive classifiers with very few or no other classifiers are found in at least Guaicuruan, Matacoan, and Mascoyan languages, and also Chiquitano. Constrastive nasalization has been suggested as a trait of Chaco languages (Adelaar and Muysken 2004: 496), though only Zamucoan and Tupí-Guaranían languages have it. Similarly, vowel harmony (Adelaar and Muysken 2004: 499; Gerzenstein and Gualdieri 2003) and palatalization (Messineo 2003: 36) have been suggested as characteristic of the Chaco, but the distribution of these within Chaco languages is quite limited. Some vowel harmony effects are found in Chorote (Matacoan [Gerzenstein and Gualdieri 2003]), Lengua-Mascoy (Mascoyan [Adelaar and Muysken 2004: 497]), and Toba (Guaicuruan [Messineo 2003: 47, 50]). The kinds of palatalization vary greatly from language to language. Adelaar and Muysken (2004: 499) note among traits which the Chaco languages share that "consonant clusters generally are simple", though the degree of consonant cluster complexity permitted varies across Chaco languages. (See Campbell and Grondona, this volume, for examples and details.)

4.10. The Southern Cone

Klein (1992: 35) mentioned features shared by languages of the Southern Cone, which include for her Mapudungu, Guaicuruan, and Chonan – thus overlapping the Chaco with the inclusion of Guaicuruan. These traits include: semantic notions of position signalled morphologically; "many devices to situate the visual location of the noun subject or object relative to the speaker"; "tense, aspect, and number are

expressed as part of the morphology of location, direction, and motion"; palatalization is a common phonological feature; more back consonants than front ones; SVO as the basic word order. This last feature needs to be adjusted, since several of the Southern Cone languages have different word orders. Adelaar and Muysken (2004: 579) reports most languages of Tierra del Fuego as having "OV" order, and more specifically: Chono with OVS/SOV, Yagan SVO/SOV, Selk'nam OVS, Gününa Küne VOS/SVO, and Qawasqar and Tehuelche with SOV. (See also Campbell 1997: 351; Viegas Barros 2005, 2006.) All of Klein's traits are found fairly widely reprsented in other languages and areas of SA, except the one of more back consonants than front ones, true probably also for some Andean and perhaps a few other Chaco languages.

4.11. Fuegian languages

Adelaar and Muysken (2004: 578) consider "areal-typological features of the Fuegian languages", which partially overlap Klein's "Southern Cone" languages. The Fuegian languages they list are: Chono, Kawesqar (Qawasqar), Yahgan, Selk'nam, Gününa Yajich (Gününa Küne), and Tehuelche. Some of the traits mentioned are:

- Voiced and glottalized consonants are present but not widespread
- Retroflex articulations are not frequent
- Suffixation and encliticisation are widespread
- Compounding and reduplication (are widespread)
- Prefixation and procliticization are also present in a number of languages
- Suppletion appears to be rare
- Most languages appear to be of the OV type

Adelaar and Muysken (2004: 579) note that "while these observations certainly tend to underline the similarities between these languages, it would be premature to conclude on their basis that we are dealing with a linguistic area here". Several of these features are also characteristic of languages of the Chaco area and others are characteristic of several Andean languages. The Southern Cone and Fuegian areas are not distinguished well and deserve greater investigation and clarification.

5. Conclusions

As seen in this chapter, South America's extensive linguistic diversity is paralleled by extensive typological diversity. The unusual and unique typological traits encountered in SA languages enrich substantially our understanding of typology generally, of what is possible in human languages. Given that the grammar of many SA languages remains to be investigated, it is anticipated that research in SA will continue to provide significant typological insights. Since a considerable number of

these languages are endangered, this investigation is urgent, for without it we stand to lose irretrievably invaluable information for understanding the full range of typological resources in human languages. As seen, several of the traits considered here pattern in regionally defined distributions. These areas deserve concentrated investigation to determine more exactly what traits characterize them and what explains these distributions. Above all, SA deserves much more attention than it has received in the typology literature generally. Most of traits suggested as indicative of particular linguistis areas turned out to have more extensive distributions, not just limited to the area in question but overlapping also other languages, while at times also failing to include other languages of the area in question. This makes defining linguistic areas more difficult, but does not make the shared traits less interesting. As Campbell (2006) advocates, in cases of so much geographical overlapping of shared traits, it would be better to concentrate on the history of the individual languages and of the various individual traits, without the futile effort of attempting to establish geographically defined linguistics areas. Undoubtedly much will be discovered of great value in further investigations of typological traits among SA languages.

Notes

1 I would like to acknowledge helpful comments on an earlier version of this paper or on specific traits in South American languages from Willem Adelaar, Patience Epps, Terrence Kaufman, Lev Michael, Earnesto Migliazza, Wilson Silva, and Leo Wetzels. Their feedback and input have been very valuable; they are not, however, responsible for any mistakes.

2 Examples from SA languages presented in this chapter are drawn from the literature (with references) and from my own fieldwork and experience. My firsthand experience with indigenous languages of South America includes Quechuan (different varieties) and Matacoan languages (Chorote, Nivaclé, and Wichí). I have also participated in research on Yanomaman languages (especially Ninam), on Máko, Sapé, and Uruák (extinct isolates), and have directed graduate student research and dissertations on Chibchan languages, Tukanoan languages, Tikuna (isolate), and Tupían languages (of different branches). My perceptions of what is significant about linguistic typology in South America are no doubt colored by experiences with these languages and lack of experience with others.

3 "1º las que subfijan las partículas pronominales, 2º las que prefijan las mismas; y 3º las que se valen de ambos recursos gramaticales. De las primeras el ejemplo típico es el idioma llamado Quichua; de las segundas el Guarany; mientras que de las terceras un ejemplo al caso sería el Mocoví y sus codialectos … en la gran familia Guaycurú." (Lafone Quevedo 1896: 121–122.)

4 "Este recurso gramatical [que se vale de las dos clases de afijos pronominales de relación personal], que á primera vista parece extraño, tiene una explicación muy natural: esas lenguas y sus codialectos se hallan encerradas entre la Guarany, que es prefijadora, y la Quichua, subfijadora" (Lafone Quevedo 1896: 122).

5 "Otras lenguas chaqueñas: el Toba […] el Chorote y, como típica de las lenguas de Brazil oriental, el Bororo" (Tovar 1961: 195).
6 "No sólo el orden de las palabras es libre y pertenece no a la gramática, mas al estilo, sino que la morfología carece de ciertos recursos que a nuestra conciencia lingüística le parecen indispensable para precisar las relaciones gramaticales y de caso" (Tovar 1961: 195).
7 The Nivaclé findings reported here are from Campbell (in preparation), from research supported by the 2003–2006 grant "Description of Chorote, Nivaclé and Kadiwéu: three of least known and most endangered languages of the Chaco" from the Endangered Languages Documentation Programme, Rausing Charitable Fund, School of Oriental and African Studies, London University (co-principal investigators Lyle Campbell, Verónica Grondona, and Filomena Sandalo).
8 Note there is no phonotactic evidence in the language that could be interpreted as supporting an analysis of this as a consonant cluster (cf. Ladefoged and Maddieson 1996: 329). Also, this Nivaclé sound is not the velar lateral, found in Mid-Waghi, Melpa, Kanite, Yagaria (New Guinea), Kotoko (Chadic), and Comox (Salishan), where contact is in the velar region with air escaping around both sides of the contact in the region of the back molars (Ladefoged and Maddieson 1996: 190).
9 In Nivaclé the articulation of the voiceless lateral /ɬ/ is an approximant [l̥], not a fricative (see, e.g. Ladefoged and Maddieson 1996: 198).
10 Of course, claims about typology and universals involving phonological elements are subject to interpretation and the theoretical lens through which they are observed. For example, much depends on how abstract an analysis is permitted. In this Nivaclé case, it could be possible for someone with an abstract disposition to claim that the /k͡l/ of this language is really just its version of an *l* – and indeed this sound developed from Proto-Matacoan **l*. A linguist who saw this sound as just an /l/ with an unusual phonetic output might then argue that it does not violate the generalizations discussed here. This reflects a more general problem in the interpretation of cross-linguistic generalizations in phonology, namely, the need to distinguish levels of representation, where things that might hold on the phonemic level might not be true of the phonetic level and viseversa. In this chapter care is taken to specify when phonemic analysis vs. phonetic analysis is at stake. For example, in a cross-linguistic survey, usually it is traits and contrasts visible at the phonemic level that are taken into consideration, though not always. Thus, for example, a survey of languages with aspirated consonants would include varieties of Quechua which contrasts plain, aspirated, and glottalized consonants, phonemically, but would leave English out, since, though English has phonetically aspirated consonants, these are predictable from context and thus not represented in the phonemic contrasts of English. Obviously, I do not believe Nivaclé /k͡l/ should be considered to be merely a plain "l" at the phonemic level, and it is clearly not just "l" at the phonetic level. Nivaclé does have a plain voiced /l/ in extremely few words, in a small handful of recent loanwords (see Campbell and Grondona 2010, in press). This shows that for native speakers /k͡l/ is not just their version of /l/.
11 This putative universal now becomes a statistical one; four Australian languages have also been analyzed as lacking voiceless stops (Bandjalang, Dyirbal, Mbabaram, Yidiny) (Hyman 2008: 91–92).
12 It is noted that these facts hold at the phonemic level, though both Pirahã and Maxakalí have nasal consonants at the phonetic level, and Maxakalí's *č* alternates with *ʃ* phonetically.

13 Willem Adelaar points out (in personal communication) that for Selknam and Kawesqar (Qawasqar), there are disagreeing alternative analyses of their vowels.
14 There is controversy about the membership of this family, and it has been called by several different names, partially reflecting different views of what its member languages are. For example, Epps (2008) prefers "Nadahup," referring to a somewhat narrower version of the family. The name "Makúan" has been maintained as the name here, following earlier traditions. However, "Makú" is considered pejorative and thus should be changed. For discussion of the family's membership, see Campbell (Classification, this volume).
15 In this section I have not attempted to distinguish languages in which nasality is a contrastive property of the individual vowels from languages in which nasality is best analyzed as a property of whole morphemes, though for complete accuracy this should be done. Thus, for example, though several Tukanoan languages are listed here, nasalization in these languages is a suprasegmental feature, at the level of the morpheme or the syllable. (See later sections in this chapter.)
16 In most of these languages, voiceless stops occur but are not possible next to nasal vowels, so that /po/, for example, is also possible, but not /põ/. That is, nasal spread for most of these languages does not extend to voiceless stops. Also, in some languages, nasal harmony is triggered by a nasal vowel, where [mo] can exist if there are contrastive nasal consonants and nasal spread is triggered only by contrastaive nasalized vowels.
17 Voiceless "l" (usually symbolized as /ɬ/) is a voiceless approximant [l̥], not a lateral fricative, in most of these languages (see, e.g. Ladefoged and Maddieson 1996: 198).
18 In some other cases, pitch accent appears to have been confused with just phonemic stress; that is, with the fact that the placement of stress in a word is not always predicable and must be marked for the syllables upon which it falls.
19 VOS order was also not found in Greenberg's original sample of languages and was also excluded by his proposed universal, though a number of examples of VOS languages soon came to be identified.
20 For example, Xokléng (Jêan) is characterized as ergative, but example sentences and some of the discussion is in terms of "active" and "stative" (for example, Castro Alves 2008: 19). Publications on Maká (Matacoan) often refer to ergativity (cf. Gerzenstein 1995), though it has active-stative alignment as is typical of Matacoan languages.
21 Discussions of gender in SA indigenous languages are frequently confusing, sometimes not limited to masculine-feminine gender contrasts, but confused with treatments of noun classes, animate-inanimate contrast, etc. While all of these are related by being involved in different kinds of noun classification systems, here I concentrate more directly on the basic masculine-feminine gender distinction. More attention needs to be directed to aninmate-inanimate gender contrasts in SA.
22 Kadiwéu has markers of mood and certain aspects, but as simple proclitics, probably grammaticalized more after separation from the other Guaicuruan languages (Sandalo 1997: 46).
23 Several of the forms are phonetically similar across some languages of the Chaco, suggesting possible diffusion, for example 'upward': Toba *-šigem*, Mocoví *-šigim*, Pilagá *-segem* ~ *-sem*, Abipón *-hegem* ~ *-ihegem*, Kadiwéu *-bigim*; Nivaclé *-šičaʔm*.
24 Maddieson (1984: 70) affirms that "nasals have been shown to be highly distinctive. That is, they are rarely subject to confusion with other types of consonants and are

reliably identified as nasals […] The distinctiveness of nasals as a class means that there is value in incorporating such sounds into any language, and that they are likely to be retained over time".

25 David Payne (1990: 80–85) also presented a shared similarity among Proto-Arawakan, Proto-Cariban, Arawan, and Candoshi, which he calls an "intricate pattern", a set of possession markers on nouns which also reflect noun classes (roughly, Possessive.Pronoun.Prefix-NOUN-Classificatory.Suffix, where the suffixes vary according to noun class with forms *-nV, -tV, -rV*, vowel change, and Ø in some of the languages). He says, "it may turn out to be the case that /-ri/, at least, is a widespread possessive suffix and nominalizer in Amazonian languages", and also, "/*-ri/ is also the possessive suffix in Jivaroan languages on regular nouns […] no possessive suffix is required (i.e. zero) in the genitive construction for inalienable [sic] possessed nouns" (Payne 1990: 85). He believes this pattern to be "less likely to be accounted for by diffusion" (Payne 1990: 85) and leaves open the possibility of a genetic relationship between Cariban and Arawakan languages.

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The phonetics and phonology of South American languages[1]

Luciana R. Storto and Didier Demolin

Introduction

This chapter aims to present a discussion of the literature on aspects of the phonetics and phonology of South American languages. Section 1 is a brief discussion of the classification of South American languages and the criteria adopted in the present work to represent the phonology of the continent's languages. In Section 2 we survey phonetic and phonological characteristics of South American languages based on a few knowledgeable sources (Adelaar and Muysken 2004; Dixon and Aikhenvald 1999; Moore 2007; Queixalós and Lescure 2000; Maddieson 1984). In carrying out this task, we do not intend to be exhaustive, since such an approach would go beyond the space given to this paper. Our goal is simply to summarize the general literature on the subject in order to allow the reader to have a picture of the continent's languages. The summary covers 51 language families or isolates representing all of the living genetic groupings surveyed by Adelaar and Muysken (2004) and Dixon and Aikhenvald (1999). The reader should be aware that this information is not always correct or up to date, as detailed in Section 1. Nonetheless, the 51 families covered by Adelaar and Muysken (2004) and Dixon and Aikhenvald (1999) are a useful source of data, corresponding to approximately half of the continent's languages. For each language family surveyed, the segmental inventory is presented, and information on suprasegmentals such as stress, duration, syllable structure, and tone are given, if available in the two sources. This information is presented in tables, given in the Appendix, to make it easier for the reader to have a picture of each family. A brief summary of the main characteristics of the consonantal and vocalic systems in question is presented in Sections 2.1 and 2.2. Facts of suprasegmental phonology are discussed in Section 2.3. Sections 3, 4 and 5 present data and discussions related to some of the most important phenomena observed to play a role in the phonological systems of South American languages: nasalization, glottalization/laryngealization and tone/pitch accent, respectively. Phenomena operating in particular languages are shown, followed by a discussion of some of the challenges they posit to linguistic theory. Some possible answers to the theoretical puzzles presented are given with the aid of experimental data.

1. Overview of this chapter

The most up-to-date classification of South American languages gives 182 linguistic groups for the Americas in general and 108 for South America in particular, comprised of 53 families and 55 isolates (Campbell, classification this volume). According to Campbell, South America alone is home to one quarter of the world's language families. The genetic situation of the American continent as a whole is one of extreme diversity, but there is no consensus in the literature about the origins of this diversity (Campbell 1997; Nichols 1990).

The classification of American languages has become a controversial issue since Greenberg, in his book, *Language in the Americas* (1987), has claimed that all languages in South America belong to the same linguistic family, namely, Amerind. In this chapter, the classification of South American languages given by Greenberg is not adopted. One of the reasons is the poor quality of the data used in his classification (Campbell 1997; Storto and Franchetto 2006). Also, Greenberg has consistently ignored the work of scholars who have specialized in the languages of the continent (e.g. Rodrigues 1985, 1986). Finally, the methodology applied – the method of multilateral comparison – is not intended to give evidence for genetic relationships among languages. Its aim is solely to hypothesize a classification. Linguists who have applied more orthodox methods to hypothesize distant genetic relationships among language families – such as the comparative method for reconstruction – have obtained different results. For instance, Rodrigues hypothesizes that Tupi-Karib is a genetic group and that Tupi-Karib-Jê seems to be another (Rodrigues 1985, 1986), and his work is not even cited by Greenberg.

The information in this chapter is taken from four major sources: Campbell (this volume); Moore (2007) for lowland languages, who bases his information on Queixalos and Lescure (2000), and on a database built by Crevels and Adelaar (2000–2006); Dixon and Aikhenvald (1999), who edited a book on Amazonian languages; and Adelaar and Muysken (2004) for languages of the highlands. Dixon and Aikhenvald (1999) has been reviewed by van der Voort (2004a) and Franchetto and Gomez-Imbert (2003, 2004), who have made several corrections and updates that we have incorporated in this chapter.

The classification of South American indigenous languages used in this chapter is basically the one suggested by Campbell (this volume), with some minor differences.

2. Consonantal and vocalic inventories

This section is comprised of a summary of the 51 tables presented in the Appendix chosen to exemplify the phonological systems of language families of South America, as given in Adelaar and Muysken (2004) and Dixon and Aikhenvald

(1999). Information taken from other sources, when given, is specified in the body of the text.

Data presented in Tables 1–51 and analyzed in Section 2 represent 27 families or isolates spoken in the lowlands (Tables 1–27) and 17 spoken in the Andes (Tables 28–51). They cover 43 language families or isolates. One family, Arawakan, is present both in the lowlands and in the Andes. Yaneshá, the Arawakan language representing the Andes, is spoken in Peru, and has clear characteristics borrowed from Quechua and other Andean languages; for that reason it could not be used to represent the whole family, which spreads across 4 countries in Central America and 8 in South America. There are 4 tables for different Chibchan languages to show the wide range of variation found in this family in terms of segmental and suprasegmental featues.

2.1. Languages of the Lowlands

The main characteristics of the segmental systems of lowland languages represented in this chapter are given in the following two sections.

2.1.1. Consonantal inventories. The 27 lowland consonantal systems surveyed vary between 8 (Pirahã [Muran]) and 27 consonants (Yaruro [Isolate]). The average is 17.5 consonants per language. The lowland South American languages represented in this chapter have at least 3 (Pirahã [Muran]) and at most 7 (Macro-Jêan) distinctions in place of articulation. There are between 2 (Pirahã [Muran]) and 9 (Sáliba [Guahibo]) series of consonants with respect to manner of articulation (excluding voicing distinctions).

All languages have at least the following segments: (1) three voiceless stops *p*, *t* and *k*, except that p is absent in Barasana (Tukanoan), and is incorrectly described in Dixon and Aikhenvald (1999) to be absent in Aikanã (Isolate) (van der Voort 2005); (2) at least one fricative, *s* or *h*; (3) two nasal consonants *m* and *n*, with the exceptions of Pirahã (Muran), that has no nasal consonants or vowels, and Southern Nambikwaran, where m is only present in loan words according to Kroeker (Northern Nambikwaran languages and Sabanê, however, do have *m*); *m* and *n* denasalize completely (to *b* and *d*) in some Makúan languages, except when followed by a nasal vowel; (4) an alveolar tap or flap, except in some Tukanoan languages, Pirahã (Muran), and the southern Cariban languages Kuikuro and Bakairi (Onde dialect exclusively); the latter have substituted the alveolar tap found in other Cariban languages for an uvular flap (Meira and Franchetto 2005; Demolin, Fausto and Franchetto, forthcoming; (5) at least one glide w, with the exceptions of Kwazá (van der Voort 2004b), Djeoromitxí (Ribeiro 2006; van der Voort 2007) and Pirahã (Muran).

The most numerous series in the languages of the lowlands are voiceless stops, given that some families may have 5 voiceless stops (Tupían, Macro-Jêan, Makúan, Cahuapana, Trumai [Isolate], Kwazá [Isolate], Tacanan, Itonama [Isolate],

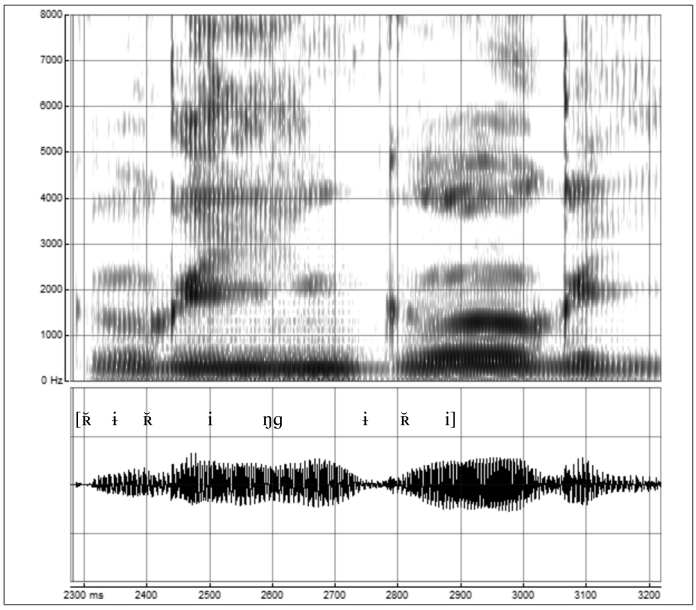

Figure 1. Illustration of an uvular flap in Kuikuro word [řɨřiŋgɨři] ‘ fish’ where [ř] symbolizes the uvular flap (Demolin, Fausto & Franchetto, forthcoming).

Movima [Isolate], Yaruro [Isolate]), not to mention aspirated voiceless stops (Yatê [Macro-Jêan], and some North Arawakan languages and Proto-Arawan). However, features such as aspiration, palatalization and labialization are not central to inventories in the lowlands as they are in the Andes.

Some systems have a few glottalized consonants, but full-fledged glottalized series as found in the Andes do not occur very often in the lowlands. There are velar ejectives in Cahuapana and Yagua, dental and velar ejectives in Trumai (Isolate) and Itonama (Isolate), labial and dental implosives in Proto-Arawan, labial and alveopalatal implosives in Kwazá and a single rare labial implosive in Puruborá (Tupían) (Galúcio 2005). Some languages have glottalized allophones of plain stops. Puruborá (Tupían) has ejective allophones of dental and velar voiceless stops (in stressed syllables) and implosive allophones of labial and dental voiced stops (Galúcio 2005). Also, glottalized nasals are reported in Movima (Isolate) and Wari (Chapacuran) at two points of articulation (*m’* and *n’*). Section 5 discusses glottalization phenomena occurring above the segmental level in South American languages.

Recent studies have identified new consonants present in some lowland languages. Demolin, Fausto and Franchetto (forthcoming) have identified a phonemic uvular/pharyngal tap in Kuikuro (Cariban), a sound that is not present in the International Phonetic Association chart, and Stenzel (personal communi-

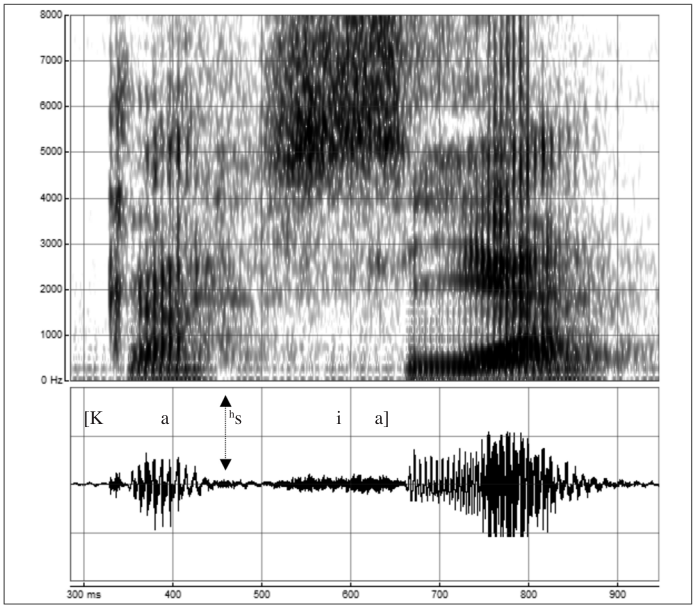

Figure 2. Spectrogram and audio waveform showing a pre-aspirated fricative in the [ka^{h}sia] word 'wild potato' (plural). The pre-aspirated part is illustrated by the arrow (Kristine Stenzel, personnal communication).

cation) has found a pre-aspirated fricative in Waikana (also known as Piratapuyo, Tukanoan), illustrated in figure 2.

2.1.2. Vocalic inventories. Languages of lowland South America have between 3 and 10 phonemic vocalic qualities. If one takes into account nasalization, length, and laryngealization, the number of phonemic vowels in some systems may double, triple or quadruple. Considering vowel quality alone, the simplest systems, comprised of one front, one back and one central low vowel are found in Pirahã (Mura), in the Arawan languages Sorowahá and Paumari (*i*, *a*, *u*) and in some Arawakan languages (*i*, *a*, *u* or *e*, *a*, *o*). The Arawan languages in question are the only ones in the family that have lost e in their derivation from Proto-Arawan, that was hypothesized as a four-vowel system formed by *i*, *e*, *a*, *o*. An identical four-vowel system is that of Cavineña (Tacanan). Different ones are present in some Panoan languages (*i*, *a*, *ɯ*, *ɨ*) and in Jebero (Cahuapanan): *i*, *a*, *u*, *ɨ*. Five vowel systems are very common, appearing in the following patterns: (1) *i*, *e*, *a*, *o*, *u* in Nambikwaran languages, Movima (Isolate), Warao (Isolate), and Sáliba (Guahiboan); (2) *i*, *e*, *a*, *o*, *ɨ* (Tupían); (3) *i*, *e*, *a*, *ɯ*, *ɨ* (Panoan) and (4) *i*, *e*, *a*, *u*, *ɨ* (Arawakan). A typical system with six vowels, found in Proto-Tukanoan, Itonama (Isolate), Guahiboan and Trumai (Isolate) is *i*, *e*, *a*, *o*, *u*, *ɨ*. Adding a schwa to that, a typical seven vowel system is formed that can be found in, Djeoromitxí, Tupí-Guaranían, and Yanomanan:

i, *e*, *a*, *o*, *u*, *ɨ*, *ə*. Cayuvava has 8 vowels (*i*, *e*, *æ*, *a*, *ɔ*, *o*, *u*, *ɨ*. Another type of eight vowel system is found in Kwazá: *i*, *e*, *ɛ*, *œ*, *a*, *o*, *u*, *ɨ* (van der Voort 2004b). Kaingang (Macro-Jêan) has 9 (*i*, *e*, *ɛ*, *a*, *ɔ*, *o*, *u*, *ɨ*, *ə*), and Yaruro has a 10 vowel system composed of *i*, *e*, *æ*, *a*, *ɑ*, *ɔ*, *o*, *u*, *ɨ*, *ə*. The Macro-Jêan language Apinajé also has 10 vowels (*i*, *e*, *ɛ*, *a*, *ɔ*, *o*, *u*, *ɨ*, *ə*, *ʌ*).

It seems correct to point out that front vowels are more frequent than back vowels in lowland systems. The high back vowel *u* is an allophone of *o* in Cavineña and in some Tupían languages. One Yanomanan language, Yanam, has lost *u*. There are three, four and five vowel quality systems without *u* in the languages surveyed. Even some more complex systems, such as the one of Cayuvava, with 8 vowels tend to have more front vowels than back vowels.

A clear case of vowel harmony has been described in the literature on South American languages by Ribeiro (2002) for Karajá: the case of regressive assimilation of the advanced tongue root ([ATR]) feature involving not only front and back vowels, but high central vowels as well, the low vowel /a/ being opaque to this assimilatory process.

2.2. Languages of the Highlands

2.2.1. Consonant inventories. Consonant inventories of 17 families representing Andean languages are given in this section. The simplest system surveyed has 10 phonemes (Bari [Chibchan]), and the most complex has 41 (Chipaya [Uru-Chipaya]). The average is 21 consonants per language. In terms of places of articulations, Andean languages have at least 5 distinctions, and at most 10 (Chipaya [Uru-Chipaya]). With respect to the manner of articulation (disregarding voicing), they have between 5 (Bari [Chibchan], Shuar [Jivaroan]) and 13 (Paez) series of consonants. All languages have: (1) a series of voiceless stops with *t* and *k*; (2) a series of voiceless fricatives featuring at least one phoneme (either *s* or *h*); (3) a series of nasals, in which at least *m* is present; (4) an alveolar tap or trill (with the exception of Paez); (5) at least one glide (with the exception of Arhuacan [Chibchan], in which *w* is an allophone of *β*). Most language families surveyed also have at least one lateral (with the exceptions of Bari and Uw Cuwa [Chibchan], Shuar [Jivaroan], Bora [Witotoan], and Chiquitano).

The series of consonants with the largest number in the languages of the Andes are stops. Languages may have aspirated voiceless stops (Waunana [Chocoan], Bora [Witotoan]), ejectives – described in Adelaar and Muysken (2204) as glottalized voiceless stops – (Selk'nam [Chonan], Tehuelche [Chonan]), both aspirated voiceless stops and ejectives (La Paz Aymara, Jaqaru [Aymaran], Callahuaya, Chipaya, and Kawesqar), geminate voiceless stops (Cuna [Chibchan]), and prenasalized voiced stops (Chimila [Chibchan], Paez, and maybe Kamsá).

Paez has one of the most complex consonantal systems of the continent, comprised of 36 consonants, because it has palatalized consonants (besides the plain

ones) in all of the following series: voiceless stops (plain and aspirated), prenasalized voiced stops, voiceless fricatives, nasal and lateral (one each). Chipaya (Uru-Chipaya) has a larger inventory than Paez, totaling 41 phonemes, because it has aspirated and glottalized consonants in 10 points of articulation, as well as a palatalized nasal and palatalized lateral.

2.2.2. Vocalic inventories. Andean languages do not have very complex segmental systems if one takes into consideration vowel quality alone. Languages surveyed have between 3 (Proto-Quechuan, la Paz Aymara [Aymaran], Jaqaru [Aymaran], Yaneshá [Arawakan], and Tehuelche [Chonan]) and 7 vocalic qualities (Yahgan). However, systems become more complex when length, nasalization laryngealization and aspiration are taken in account. Chimila (Chibchan), for instance, has 5 vowel qualities, all of which can be phonemically short, long, laryngealized and aspirated (breathy voiced), totaling 20 vowels. The most complex vocalic system is found in Paez, where 4 vowel qualities can be short, long, aspirated (breathy voiced) and laryngealized (oral or nasal), totalling 32 distinctive vowels.

Marsico and Rojas Curieux (2006) have done a preliminary acoustic study of the 16 oral vowels of Paez (short, long, laryngealized and aspirated, that is, breathy voiced). They give the average formant (F1 and F2) values for short and long vowels (*i*, *e*, *a*, *u* and *i:*, *e:*, *a:*, *u:*), and present two spectrograms – one for a laryngealized vowel and another for an aspirated vowel – that we reproduce in figures 3 and 4:

Maddieson (1984: 129) notes that in the world's languages the probability of length being part of the vocalic system increases with the number of vowel quality contrasts found in the language. South American languages do not seem to fit this generalization, since they often have small vocalic inventories that show length as well as other contrastive phonation types, such as aspiration and laryngealization.

2.3. Suprasegmentals in South American Languages

2.3.1. Length. Although length plays a role in the segmental inventories of languages (long vowels and geminate consonants), we choose to summarize all length phenomena as part of a section on suprasegmentals, because of the relationship observed crosslinguistically between length and other suprasegmental phenomena such as stress and tone.

The phonetic correlate of length is always duration, either for vowels or consonants. Duration, however, is one of the possible correlates of stress in the world's languages, along with intensity and fundamental frequency. The latter is also the phonetic correlate of tonal phenomena. We will see that South American languages use length in their segmental phonological systems and that length is often related to stress and even tonal phenomena (pitch accent systems).

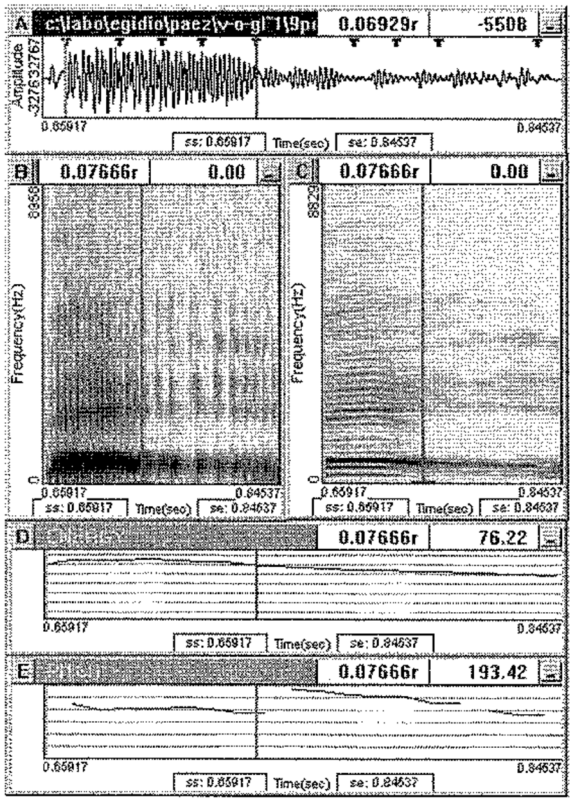

Figure 3. Analysis of the sequence [e̯] in the word *pẹ̯s* 'sister' in Paez. Window A shows the audio waveform, B and C wide band and narrow band spectrograms, D amplitude curve and E Fundamental frequency. (Adapated from Marsico and Rojas Curieux 2006).

Twenty-seven language families or isolates surveyed for lowland South America have vocalic duration as one of their features. Three of the most important language families, Cariban, Arawakan, and Tupían, have long vowels in a representative number of languages, and one Jêan language (Ofaye) has a complete series of long vowels paralleling the oral and nasal vowels; also, some smaller families or isolates have contrastive long vowels: Jebero, Arabela, Movima and Makúan. Tukanoan languages have sequences of equal vowels that are considered part of separate syllables because they can bear different tones. Consonant duration is much rarer in lowland languages, being more common in the Andes.

The 24 languages surveyed from Adelaar and Muysken (2004), representing languages of 17 different families or isolates of the Andes, definitely show duration as a crucial feature of their phonological systems.

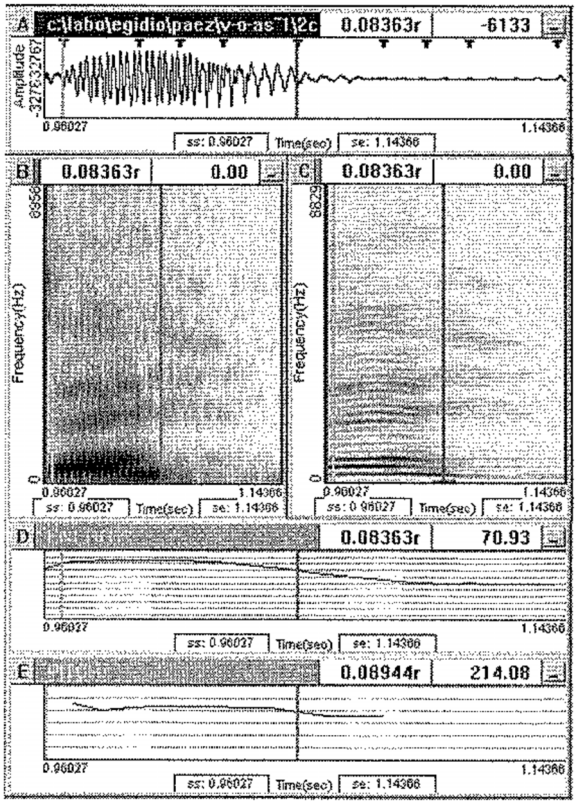

Figure 4. Analysis of the sequence [e̯] in the word *tse̯me* 'face badly shaved' in Paez. Window A shows the audio waveform, B and C wide band and narrow band spectrograms, D amplitude curve and E Fundamental frequency. (Adapated from Marsico and Rojas Curieux 2006).

All Chibchan languages examined have either geminated consonants (voiceless stops, nasals and laterals in Cuna, and nasals in Arhuacan), long vowels (Chimila, Bari), or some kind of predictable lengthening process (of consonants in Chimila, and vowels in Uw Cuwa). Some language families, such as Guaicuruan, present distinctive length for both consonants and vowels; Kadiwéu, according to Sandalo (1996), has geminate consonants.

Of the remaining 16 families or isolates, 12 show length phenomena: (1) Paez has long vowels; and (2) the Barbacoan language Cha'palaachi has a length contrast in the vocalic system, as do other 9 families: (3) Proto-Quechuan, (4) Aymaran, (5) Callahuaya, (6) Chipaya (Uru-Chipaya), (7) Arawakan, (8) Bora, (9) Chiquitano, (10) Guaicuruan (according to Klein 1978), and (11) Tehuelche (Chonan); (12) Yahgan has long allophones in its vocalic system. Also, Chipaya and Cuna have phonological processes involving vocalic lengthening: in the

former it is a result of contractions, and in the latter it is an automatic result of stress. In Selk'nam (Chonan), vowels are reported to lengthen and lower when followed by h.

Another fact found in vocalic systems of South American languages is that whenever long vowels are present phonemically, they have the same qualities as short vowels. Maddieson (1984) shows that this is a common situation in the world's languages. What seems particular to some South American languages is the fact that each short vowel can have a corresponding long vowel both for the oral and the nasal series, as in Karitiana ([Arikém] Tupían). Exceptions are Karo ([Ramarama] Tupían), and Ofayé (Macro-Jêan).

Of the 17 languages surveyed for the Andes, 15 present length phenomena playing a role in their phonology.

2.3.2. Syllable structure. The information about syllable structure made available in Dixon and Aikenvald (1999) for the five larger families of the lowlands can be summarized as follows: Cariban languages have (C)(C)V(V)(C) syllables word-initially or phrase-initially, and syllables with an obligatory onset elsewhere; coda restrictions disallow some fricatives and nasals; Arawakan languages are (C)V(V)(C), where codas are limited to glides, nasals, and, rarely, liquids and h; consonant clusters occur solely in Piro; Tupían languages have (C)V(V)(C) syllables; Most Macro-Jêan languages have consonant clusters formed by a labial or velar stop or nasal followed by a tap; Yatê and Xerente have developed more complex clusters; Panoan languages have basic CV syllables.

Adelaar and Muysken (2004) do not provide a lot of information on the syllable structure of Andean languages. Nonetheless, it is possible to say that length is present in most vocalic systems, creating a bimoraic nucleus for syllables in the languages in which it operates. Few languages allow bimoraic nuclei with vowels of different quality. The simpler syllables are formed by a single vowel or sonorant consonant and the more complex by a cluster of two or three Cs in the onset and the same number of Cs in the coda: (CC)VC(C) in Paez, CVCC or CCVC in Guaicuruan, CCVCCC in Selk'nam (Chonan), CCVVCC in Kawesqar and Yahgan, CCCVC in Tehuelche (Chonan).

2.3.3. Stress, tone, and pitch accent. Lowland South American languages as presented by Dixon and Aikhenvald have predictable stress, unpredictable stress, tone, or pitch accent, as can be seen in the tables provided at the Appendix. Tone and pitch accent in Tupían and Tukanoan languages will be discussed in Section 5.

As far as Andean languages go, Chibchan languages present stress (Cuna, Arhuacan, and Uw Cuwa), or tonal phenomena. Waunana [Chocoan] also has stress. The only case in which tone is uncontestable according to Adelaar and Muysken (2004) is in Bari. Chimila and Uw Cuwa probably have pitch accent phenomena. Of the remaining 16 families examined, there is information about

10. The following patterns can be observed with respect to stress languages: (1) Paez may have contrastive stress; (2) Kamsá and Proto-Quechuan have contrastive stress on the last or penultimate syllable; La Paz Aymara has penultimate stress and long vowels in word-final position attract stress; (3) Shuar (Jivaroan) has contrastive stress, mostly on the penultimate of the stem; (4) Toba (Guaicuruan) has stress on the last syllable of the word; (5) stress is predictable in Yahgan; (6) stress is initial in Tehuelche (Chonan). The only tonal language identified by Adelaar and Muysken (2004) outside the Chibchan family is Bora (Witotoan).

3. Nasal segments and nasalization

Nasality is a feature that may be present in consonants or vowels. From an articulatory point of view, when the velum is lowered, and a closure is present in some point of the oral cavity, air from the lungs is directed out of the body through the nasal cavity, characterizing a nasal consonant. In nasal vowels, the oral cavity is also open, so that the egressive flow of air from the lungs is expelled both through the mouth and through the nose. Nasal consonants have a complete closure at some point in the oral cavity. In that respect, they are similar to stops, but since the flow of air from the lungs in nasal consonants is crucially not interrupted, being released out of the body through the nose, they are considered different from stops in manner of articulation. Nasal phenomena in South America, however, go beyond plain nasal consonants and vowels.

As we will see in the discussion that follows, some South American languages have complex nasal consonants that are realized with oral closures (*bm*, *bmb*) and realeases (*mb*, *bmb*) in some oral environments. Another type of complex consonant involving nasality is found in Movima (isolate) and Wari (Chapacuran), where preglottalized nasals have been described; these sounds have been analyzed experimentally in Movima as voiceless nasally released glottalized plosives (Demolin, Haude and Storto 2006) (see below, Section 4.3).

Morphemic nasality has also been described in some South American languages such as Tatuyo, Carapana, Barasana, Taiwano, Macuna, Bara (Tukanoan) and Guaraní ([Tupí-Guaranían], [Tupían]). These languages are analyzed as having voiced stops, and no nasal series; in nasal morphemes, *b*, *d*, *g*, *r*, *w*, *y* and h are realized as *m*, *n*, *ŋ*, *r̃*, *w̃*, *ỹ* and *ɦ̃*. One Tukanoan language, Koreguaje, is analyzed as having nasals rather than voiced stops. Yagua has prenasalized stops as the realization of nasal consonants in oral environments.

Nasalization spreads across words in Panoan and Tupían languages. In Panoan languages, nasalization spreads from a nasal consonant to the left through vowels and glides, and when the nasal is followed by *w*, *y*, *h* or *ʔ*, it also spreads to the right. In some Tupían languages similar phenomena are observed. In Kari-

tiana ([Arikém], Tupían), nasalization spreads from vowels to the right, being blocked solely by voiceless stops and /s/. In some examples, when a glottal stop precedes a nasal vowel, nasalization from that vowel may spread to the left. In Makúan languages, nasalization is described as syllable prosody; inside the syllable the pairs *b*/*m*, *d*/*n* and *g*/*ŋ* are allophones of the same phonemes. Jebero (Cahuapanan) is also described as having nasalization as syllable prosody. In Yanomanan, morphemes are considered intrinsically nasal or oral, and nasality spreads rightward to oral suffixes, being blocked by voiceless stops and fricatives.

3.1. Complex nasals

3.1.1. Pre and post-oralized and post-stopped nasals. Tupían, Jêan (including Arikapú and Djeoromitxí, recently classified as Macro-Jêan) and Tukanoan languages, for instance, show allophonic variation between nasal, partially nasal and voiced oral consonants. The distribution of such allophones strongly suggests that in some of these phonological systems – Tupían and Jêan at least – nasal phonemes become partially oral when contiguous to oral vowels. This kind or oralization phenomena constitutes a serious problem to any linguistic theory relying on features, because it would have to be accounted for by the local spread of a [-nasal] feature from vowels to the edges (closures and releases) of nasal consonants. Clearly, [-nasal] is not a feature that most linguists would like to advocate, because languages in general do not assimilate nor spread orality. Still there is something to be explained in Tupían, Jêan and Tukanoan languages. Why do speakers make such allophonic distinctions? What do these languages have in common that could explain the similarities in their treatment of nasal allophones? We will argue below that experimental data, including production and perception studies, may give us answers to some of these puzzles.

We choose to present data from Karitiana because it is the only language in South America for which acoustic, aerodynamic, and perceptual data of complex nasal consonants is available (Storto and Demolin 2002a, 2002b, forthcoming; Everett 2006).

Karitiana is a Tupían language, the last living representative of the Arikém subfamily, spoken today 95 kilometers south of Porto Velho, in Rondônia, Brazil, by a group of approximately 400 people. The SIL missionary David Landin (Landin and Landin 1973; Landin 1984) was the first to show that nasal consonants in Karitiana had partially oralized allophones in oral environments. Storto (1999) presented evidence for the allophones of nasal consonants in Karitiana as seen in Table 1.

Table 1. Allophones of nasals (Storto 1999)

(1) Pre- and post-oralized (v__v)			(3) Post-oralized (ṽ__v)		
/ami/	[a.bmbi]	'house'	/ãmo/	[ã. mbo]	'to climb'
/kina/	[ki.dnda]	'thing'	/osẽna/	[osẽ.nda]	'waistline'
/eŋɨ/	[e.gŋgɨ]	'vomit'	/põŋɨp/	[põŋgɨp]	'quiet'

(2) Pre-oralized (v__ṽ)			(4) Fully oral (##__v)		
/himĩnã/	[hi.bmĩ.nãx]	'roasted'	/morotɨ/	[bo.ro.tɨ]	'paca'
/enã/	[e.dnãx]	'pregnant'	/neso/	[de.so]	'mountain'
/esɨŋã /	[e.sɨ.gŋã]	'waterfall'	/ŋokɨp/	[go.kɨp]	'sun'

(5) Fully nasal (##__ṽ, ṽ__ṽ and ṽ__##)		
/mãrãm/	[mã.rãm]	'fly (insect)'
/nõn/	[nõn]	'crooked'
/ŋõŋõrõŋ/	[ŋõ.ŋõ.rõŋ]	'summer'
/ãmẽm/	[ã.mẽm]	'to enter'
/õnĩ /	[õ.nĩ]	'that (deictic)'

Storto (1999) argued that Steriade's (1993) analysis of stops as having a closure and release phase could be used to represent the allophones of Karitiana nasals if nasality were considered a binary feature, since the closure phase has both an oral and a nasal portion in the allophones [bmb] and [bm].

To give support to any theoretical analysis of complex nasals, however, one must examine the closure and release of the point of articulation in the oral cavity in relation to the raising and lowering of the velum in the production of such sounds. Storto and Demolin (2002b, forthcoming) have carried out an acoustic analysis to better describe the allophones of nasals in Karitiana. They have confirmed the description given above, except that they have found a detail that Landin (Landin and Landin 1973; Landin 1984) Storto (1999) and Everett (2006) did not describe: that nasal consonants followed by nasal vowels are produced with a burst at the release. They have called these allophones post-stopped, and have used a superscript to represent them:

[mᵇ], [nᵈ], [ŋᵍ] in environments #__ṽ and ṽ__ṽ
[bmᵇ], [dnᵈ], [gŋᵍ] in environment v__ṽ

The post-oralized allophones in Karitiana, as expected, show a clear nasal phase, followed by an oral phase. The post-stopped allophones identified for the first time in this study are sounds in which there is an abrupt raising movement of the velum before the nasal release, creating a burst between the nasal consonant and a following nasal vowel.

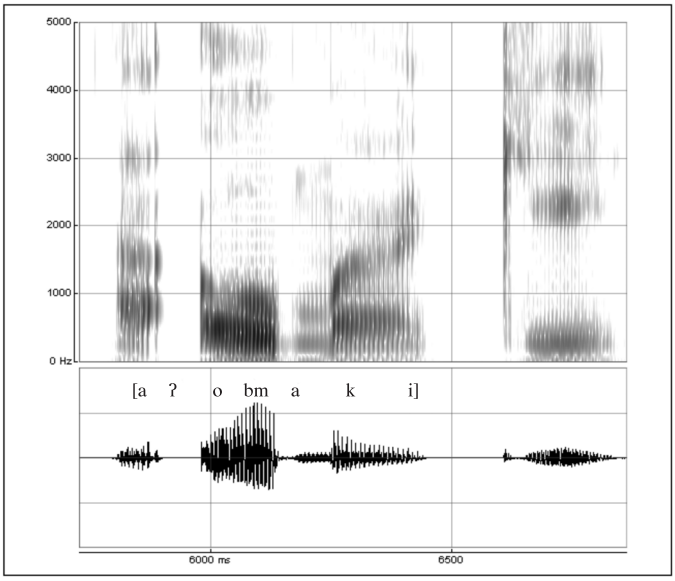

Figure 5. Illustration of a glottal stop in Karitiana showing complete closure between the two vowels, in the word [aʔobmaki] 'not pierced'. The word also contains an example of pre-oralized consonant [bm].

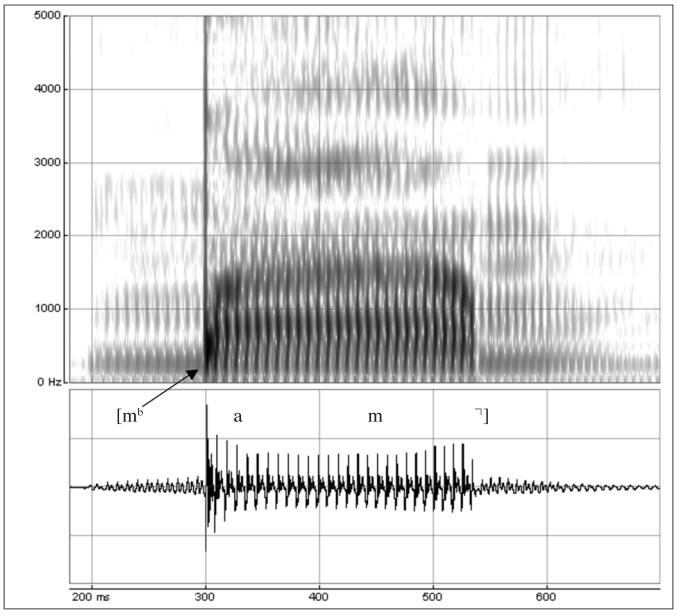

Figure 6. Spectrogram and audio waveform illustrating a post-stopped nasal consonant in the word [mᵇãm˺] 'to tighten' in Karitiana. The burst at the end of the initial is marked by an arrow on the spectrogram.

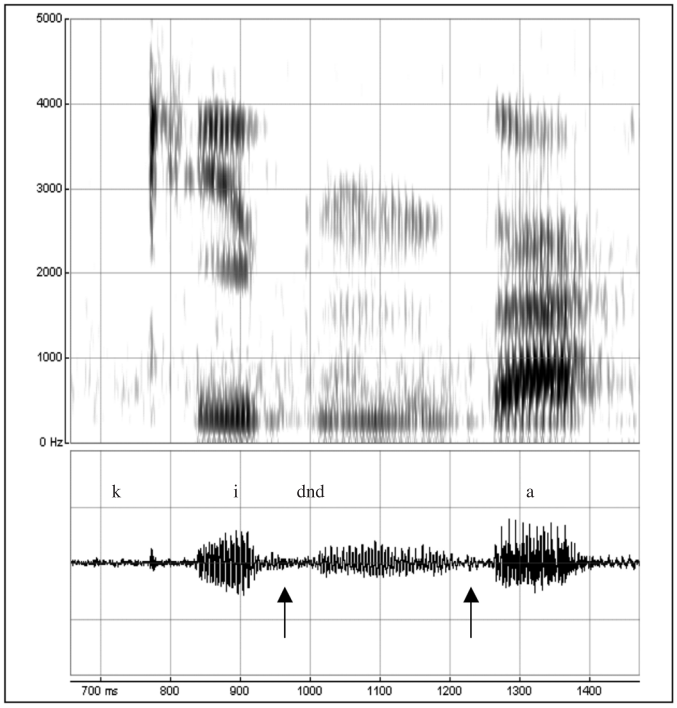

Figure 7. Spectrogram and audio waveform of the word [kidnda] 'thing' in Karitiana. Arrows indicate the pre- and post-oralized parts of the complex nasal.

Comparing the acoustic and aerodynamic data in light of a perception study made by them, Storto and Demolin suggest that speakers of Karitiana are using a precise control of velum movement to create perceptual differences between nasal consonants and neighboring vowels in order to preserve their identity as oral or nasal segments. The extreme case is that of post-stopped allophones, in which a burst is introduced even between two nasal sounds to enhance the boundary between an intrinsic nasal consonant and an intrinsic nasal vowel. Crucially, the allophony observed is not a case of [-nasal] spreading, because post-stopped allophones are not oral, although they use velum movement control to increase intra-oral pressure and to create a burst.

Similar data from Jêan languages have been discussed in the literature. Kaingang (Wiesemann 1972; Wetzels 1995; D'Angelis 1999; D'Angelis and Reis Silva 1999) and Maxakalí (Callow 1962; Burgess and Ham 1968; Gudschinsky, S. H. Popovitch and F. Popovitch 1970), for instance, show nasal contours of the same type found in Karitiana. Mebengokre and Apinaye, as well, show similar contours (Salanova 2001). Different explanations of such phenomena can be given. Anderson (1976) suggests a binary [nasal] feature creating contours when linked to the

same segment, in the same fashion as contour tones. Clements has several proposals in the framework of feature geometry (Clements 1985; Clements and Hume 1995), where oral, nasal and laryngeal nodes are represented independently. Piggot (1992) attemps to link [nasal] features to two different nodes in the geometry, treating segments as opaque or transparent to nasal harmony. Steriade (1993) presents a proposal in which the feature [nasal] is no longer considered as binary, but privative, being either present (in nasal sounds) or absent (in oral sounds). Therefore, contours involving the privative feature [nasal] in Steriade's framework would only be possible if more than one position were available for linking; plosives, in her theory, have two phases – a closure and a release – in which features such as nasal and spread glottis can dock. This analysis, however, cannot account for the medionasal allophones *bmb*, *dnd*, *gŋg* found in Karitiana and Kaingang. She accounts for these languages as having a biphasic allophone [bm] as in Apinaye, with the difference that by virtue of a preceding oral vowel they get a delayed onset of nasalization (personal communication, 1993). Tukanoan, Tupían and Jêan languages are explained with the same analysis in Steriade (1993). They have series of plosive consonants, which get contextual and context-free nasalization.

D'Angelis (1999) discusses medionasals in Kaingang (*bmb*, *dnd*, etc), showing in spectrograms that they vary freely with post-oralized allophones (*mb*, *nd*, etc). It is not clear to him whether the preceding vowel is oral or nasal in the latter. Storto and Demolin (2002b, forthcoming) mention that the same variation occurs in Karitiana, although, in such cases the preceding vowel is always nasal in the post-oralized forms. Kaingang medionasals as described by D'Angelis and Karitiana medionasals are also different in that the post-oralized variant in the former are always preceded by a vowel in a different syllable. In Karitiana this syllabic restriction cannot be explained to trigger the variant, or else we would expect the allophone [bm] to have a variant in the same environment.

Whatever theoretical account one may adopt, the fact remains that one of the crucial factors that may help us understand phonological phenomena involving nasal consonants in such languages is the *timing* between the lowering movement of the velum and the release of the oral gesture. Fine differences between oral and nasal gestures are being used in the phonological systems of these languages to control different allophones. Speakers seem to be exploring the articulatory possibilities of velum movement and oral closure to enhance contrast between segments. Another crucial feature of these systems is that the goal of such complex articulations seems to be to create auditory, that is, *perceptual* differences between each environment in order to preserve the distinctions that exist among them. Theories of phonology that do not include variables such as timing between gestures and tests of perception with speakers cannot account in a satisfactory manner for the complex nasals found in some of these languages.

3.1.2. Complex glottalized sounds involving nasality. Wari (Chapacuran) and Movima (Isolate) have been described as languages in which a distinctive series of glottalized nasals is present. We will see in Section 5 that, at least in Movima, such sounds can be described as allophones of voiceless stops.

3.2. Nasal morphemes

In Tukanoan languages, a different account has been given for the apparent allophonic variation between nasal consonants, partially nasal consonants and voiced stops. According to this account, nasality may be a property of morphemes, and spread via assimilation through words, affecting all voiced segments and being blocked by morphemes that are opaque to nasality, but crucially not by voiceless segments.

Gomez-Imbert (2000) describes all Eastern Tukanoan languages – that is, Tatuyo, Carapana, Barasana, Taiwano, Macuna and Bara – as languages in which nasality is a suprasegmental feature that is part of the morpheme. She claims that in all of these languages, lexical, as opposed to grammatical morphemes may be classified as either nasal or not nasal, and that the presence of a nasal feature determines assimilation of this feature from the host lexical morpheme to the grammatical morphemes that agglutinate around it. However, not all Tukanoan languages behave in the same way with respect to grammatical morphemes. Tatuyo and Barasana have a different pattern of nasalization in infinitive constructions, for instance, because in the former nasality spreads to all suffixes, whereas in the latter this does not happen. Besides having morphemes that carry the [+nasal] feature and spread to neighboring grammatical morphemes (strong morpheme), Tatuyo also has morphemes that carry a [+nasal] feature without spreading it (weak morpheme). Gomez-Imbert's (2003: 175–176) Barasana data illustrate this analysis (see Table 2).

Eastern Tukanoan languages directly challenge feature theories for the same reasons mentioned above in the discussion of complex nasals in Tupían and Jêan languages. Do we want to explain phonological phenomena such as the opaque non-nasal morphemes above mentioned as being [-nasal]? If non-nasal morphemes were underspecified for nasality, how could the spread of nasality be blocked in the resultative *koá* mentioned in Table 2. We seem to have reached the limits of feature theory in examining nasalization phenomena in these South American languages. Experimental studies must be carried out in order to allow for a more accurate description of the complexities of nasal phenomena in Tupían, Jêan and Tukanoan languages, and to help phonologists and phoneticians alike to explain the motivations. As the experimental study of Karitiana complex nasals seems to suggest, linguists must take into account two variables that are usually ignored: (1) timing differences between opening and closure of the oral articulation and velum movement, and (2) perception factors as a source of distinctions that speakers make in

Table 2. Barasana data illustrating nasal morphemes (selected, adapted and translated)

Oral Roots (-nasal)			
/b/	báá-ré	[bááɾ̰é]	‘to swim’
/d/	widí-ce	[wid:ĭce]	‘bushy’
/g/	cigé-ré	[cĭg:éɾé]	‘to pinch’
/j/	júu-re	[ɟúuɾ̰e]	‘to swallow’
Nasal Roots (+nasal)			
/b/	~báá-ré	[má̰á̰ ɾ̰ḛ́][2]	‘to take a handful’
/d/	~widí-ce	[w̰ḭn:ḭ̆cḛ]	‘scent’
/g/	~cigé-ré	[cḭ̆ŋ:ḛ́ɾ̰ḛ́]	‘to rob’
/j/	~júu-re	[ɲṵ́ṵɾ̰r̰ḛ]	‘to aim’
[-nasal]	[+nasal]	[-nasal]	[+nasal]
báa	-rugú	=koá	-bó
‘to swim’	‘continuative’	‘resultative’	completed-fem
[báaɾ̰ṵŋ:ṵ́koámõ̰]			
‘She has already swam, as usual’			

their phonological systems. Aerodynamic data is crucial to determine timing differences between oral and nasal gestures and to show the difference between a nasalized consonant and a consonant that is oral (such as *h* and *ʔ* in Tupían and Panoan languages and voiceless stops in Tukanoan languages) but does not block nasality spreading.

3.3. Spontaneous nasalization or rhinoglottophilia

Systematic observations and experimental data have shown that the apparently mysterious assimilation in which voiceless fricatives (and even aspirated stops and affricates) trigger nasalization in neighboring vocalic segments can be explained by universal physical constraints. In the description of some phonological systems in South American languages such processes have been mentioned (see Campbell classification, Campbell and Grondona, this volume). According to Ohala and Ohala (1993), the phenomenon has been identified in Indo-Aryan languages by Bloch (1920, 1965), Turner (1921) and Grierson (1922), and shown to exist in many other languages (Ohala 1975; Matisoff 1975). Matisoff (1975) named it rhinoglottophilia. It is a phonetically well documented phenomenon: an effect of the opening of the laryngeal cavity, that assimilates to the margins of adjacent vowels (even when they remain fully voiced), creating resonances that are perceptually confused with resonances of the nasal cavity, since in both cases

there is a coupling between two cavities. The resulting segments are crucially *not* nasal but are recognized as nasal by listeners, as perception tests have shown (Ohala and Amador [1981], summarized in Ohala [1983]). These vowels give the impression of being nasal because of the acoustic similarities betweem them and nasal vowels (lowered amplitude and increased bandwidth of F1, according to Ohala and Ohala [1993]).

4. Glottalization and laryngealization

Glottalization phenomena affect both consonants and vowels. In order to make the phonetic terminology to be used in this discussion clear, we will use glottalic to refer to segments produced with the glottalic airstream mechanism (i.e. ejectives and implosives). All other segments where the glottal constriction does not serve as the airstream initiator will be called laryngealized. These are vowels and it also includes sonorant and some other pulmonic consonants such as preglottalized consonants (Maddieson 1984; Ladefoged and Maddieson 1996).

4.1. Laryngealized vowels

Laryngealized vowels are vowels that have the phonation type identified in the literature as "creaky voice" (Laver 1980; Ladefoged and Maddieson 1996). In South American languages they can be characterized phonetically as having a lower F0 than modal vowels (normal vowels), lower amplitude and irregular vibrations of the vocal folds. These characteristics can be seen in a spectrogram, as in Figure 3. Sonorant consonants, such as nasals and approximants, for instance, can be described as either glottalized or laryngealized when they show this irregular voicing.

4.2. Glottalic consonants: Ejectives and implosives

Glottalic consonants are consonants initiated by a glottalic airstream, that is, ejectives (egressive airstream) or implosives (ingressive airstream).

The articulation of ejectives can be described as follows: after a closure of the vocal folds and an almost simultaneous closure or constriction in the vocal tract, the larynx raises and the oral cavity volume is reduced. When the larynx raises, the intra-oral pressure also increases, because of the reduction of the volume of the oral cavity. Then the oral articulation is released with a strong burst followed by a release of the oral closure. Ejectives are always voiceless.

Implosives, which are most of the time voiced, are articulated starting with the adduction of the vocal folds and a closure in the oral cavity. The lowering of the larynx and the consequent expansion of the pharyngeal cavity creates a negative pressure inside the cavity that triggers an ingressive air stream through the glottis

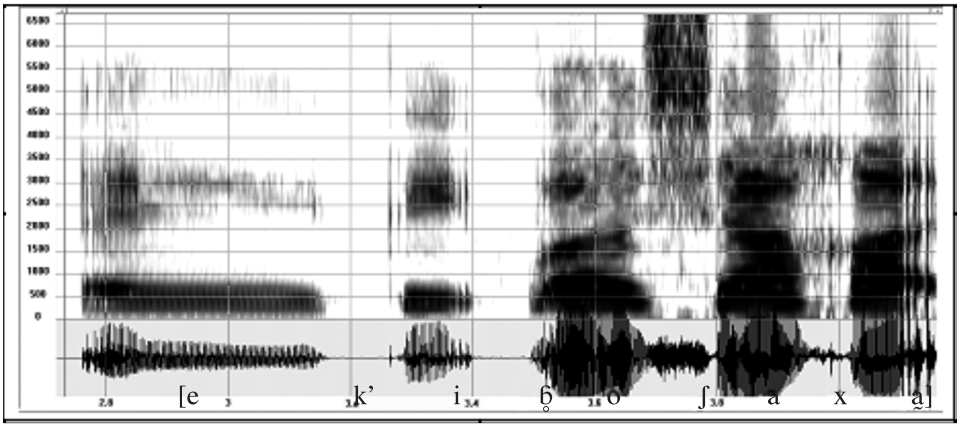

Figure 8. Spectrogram and audio waveform showing an Esse Eja word 'knee' containing a velar ejective consonant [k']. (Marine Vuillermet, personnal communication).

for a short moment. As already said above, implosives are voiced most of the time, but voiceless implosives do exist in the world's languages and some examples (Figure 9) have recently been found in South America in the Tacanan language Ese Ejja (Vuillermet 2006). Historically, implosives have been described in Sindhi and in some African languages as arising from geminate voiced stops (Nihalani 1974; Yigezu 2001). One question still to be answered is whether or not implosives in South American languages may have had that same source.

4.3. Secondary glottal articulations

Glottal stops can combine with other stops to form preglottalized or postglottalized consonants. Haude (2006) claimed that the segments that have been described elsewhere as preglottalized nasal phonemes *ʔm* and *ʔn* in Movima are better understood as postglottalized voiceless stops that have a nasal release (allophones of voiceless stops in coda position): *pʔᵐ* and *tʔⁿ*. (Illustrated in Figure 9.)

The nasal release is explained by Haude as a byproduct of the timing differences between the release of the oral and glottal gestures. Since the glottis seems to close after the front oral closure, a mass of air is trapped between the two articulations, and the nasal release of this allophone may be a strategy to reduce the burst of the stop release. Demolin, Haude and Storto (2006) present acoustic data that are consistent with the hypothesis, but claim that aerodynamic studies (measurements of oral flow, nasal flow and intra-oral pressure during the articulations of these sounds) must be carried out to corroborate it. Other kinds of preglottalized and postglottalized stops claimed to exist in South American languages must be better described and understood from an experimental point of view as well.

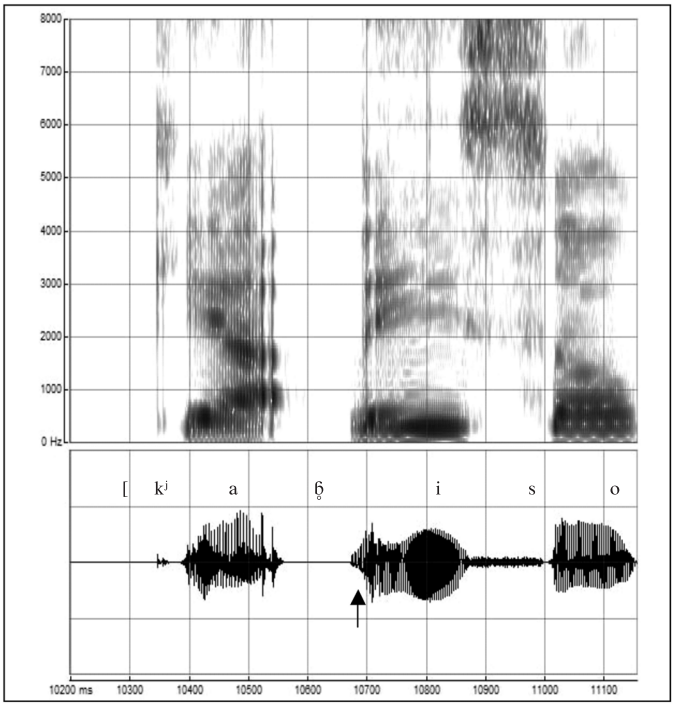

Figure 9. Voiceless implosive in the word [kʲaɓiso] 'small' in Esse Eja, The prevoicing, indicated by an arrow, is visible after the voiceless part and before the burst that precedes the vowel I (Vuillermet 2006).

4.4. Glottal stops and their variants

Glottal stops are consonants articulated with a complete closure of the vocal folds, and for this reason they are, by definition, voiceless. They are crucially different from all other voiceless stops, however, in that voiceless stops are usually articulated with an open glottis. Another interesting characteristic of glottal stops, seen in Panoan and Tupían languages, is that they do not block nasalization. The velum can maintain a lowered position through the articulation of the glottal stop. This does not mean that the stop is nasalized, because with a glottal closure there is no voicing or nasal flow, but it explains why in Tupían and Panoan languages glottal stops do not block nasalization, whereas other voiceless stops do. Something similar could be said about voiceless glottal fricatives in the languages mentioned above. They do not nasalize themselves, since they are voiceless, but the velum could be lowered and stay that way through their articulation.

One of the theoretical questions raised by glottal stops in some South American languages is the exact nature of their phonological status. In Tupían languages, for instance, they are not always described as phonemic, although they are always

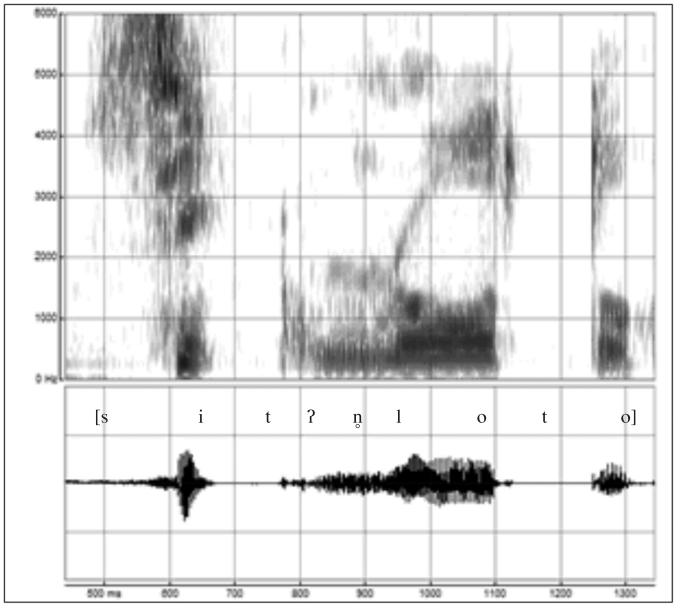

Figure 10. The word [sitʔn̥loto] 'to be deaf' illustrates the combination of a glottal stop and a voiceless stop with a nasal release that make a complex consonant in Movima (Haude 2006).

present. Also, it is not uncommon to find segments described as glottal stops surfacing phonetically in one of the following articulatory forms: (1) glottal stops or creaky transitions; (2) glottal approximants; (3) voiced laryngealized transitions between vowels. Some of the questions raised by these facts are: if glottal stops are not always phonemes or stops, what are they? Features? Suprasegmentals? Are they linked to stress or syllable boundaries? Do they operate at larger prosodic levels, for instance, the prosodic word or phonological phrase? A closer look at these languages raises interesting questions and suggests possible answers.

Demolin, Sandalo and Storto (2004) have argued that glottal stops seem to mark syllabic boundries in some Tupían languages. In 4 out of the 10 Tupían language subfamilies – Arikém, Tuparí, Juruna and Mondé – glottal stops have been argued not to be phonemic. In Karitiana ([Arikém] Tupían), the glottal stop is limited to the onset of stressed syllables, and for this reason Storto (1999) considers it epenthetic. In Mekéns (Tuparí), when a glottal stop occurs in a word, it is also possible to pronounce the word without it (Galúcio 2001, personal communication 2001). In Xipaya (Juruna) the glottal stop is so rare that Carmen Rodrigues (1990) does not include it in the phonemic inventory. In Surui (Mondé), Lacerda (2004) has not found any instances of a glottal stop, but only laryngealized transitions between vowels. The same phenomenon is quite common in Juruna (Lima, Fargetti and Demolin 2006). Five out of the 6 subfamilies in which glottal stops

are phonemic are representative of two genetic subgroupings inside Tupían: Mawe-Aweti-Tupí-Guaranían and Puruborá-Ramarama. The remaining subfamily, Munduruku, is an interesting case in Tupían, since it is the only subfamily which has at the same time phonemic glottal stops, phonemic laryngealized vowels and tone (Picanço 2005). Even in the six Tupían subfamilies where glottal stops are phonemic, they do not necessarily surface as stops. In Mawé, they often show up as a glottalized voiced approximant or as vocalic laryngealization.

Interestingly enough, such a phenomenon does not seem to be limited to Tupían languages. We also find it in Guaykuruan (Demolin, Sandalo and Storto 2004), and, possibly, in Tukanoan languages (Stenzel, personal communication 2007). Demolin, Sandalo and Storto (2004) discuss some perceptual and cognitive aspects of the phenomena observed in Tupían languages. Glottal stops may not be there, but the auditory impression of a glottal stop can be given by a change in phonation type (modal to creaky or creaky to modal) in one cycle of the vocal folds' vibrations. This is achieved by increasing the vocal folds' tension [v̰v] or by relaxing it [vv̰]. The linguistic relevance of this phenomenon strongly suggests that the change in vocal fold tension is controlled to enhance a contrast in the phonology of the languages. This strategy may have been present as such in Proto-Tupían, since some glottal stops present today even in the languages in which they are predictable, can be reconstructed in the proto language (Rodrigues 2007).

As tables in the Appendix summarize, the Arawakan languages Piro and Wayana insert an epenthetic voiceless glottal fricative [h] or a glottal stop before a word-initial vowel and they often use [h] in word-initial or word-final position to mark word boundaries. In the Chibchan language Uw Cuwa, also known as Tunebo, glottal stops often appear before syllable-initial vowels. These two cases may prove to be part of the same strategy above described.

Tukanoan languages have also been described as having non-phonemic glottal stops (Stenzel 2007). Stenzel argues that Wanano has a suprasegmental feature [+constricted glottis] that associates with the initial mora of certain lexical roots, creating lexical distinctions (minimal pairs) such as the ones below. See Table 3.

Table 3. Evidence for supra segmental glottal feature (Stenzel 2007)

[+constricted glottis] Roots			[-constricted glottis] roots		
phi'a	[pʰiʔá]	'go out into'	phia	[pʰiá]	'be sour'
su'a	[suʔá]	'weave'	sua	[suá]	'pick fruit'
wʉ'ʉ	[wʉʔʉ́]	'house'	wʉʉ	[wʉʉ́]	'fly'
~si'di	[sĭʔnĭ]	'drink'	~sidi	[sĭnĭ]	'ask'
phu'ti	[pʰuʔtí]	'leftover manioc'	puhti	[pʰuʰtí]	'blow (a flute)'
~da'bo	[nãʔmṍ]	'rope'	~dabo	[nãmṍ]	'wife'

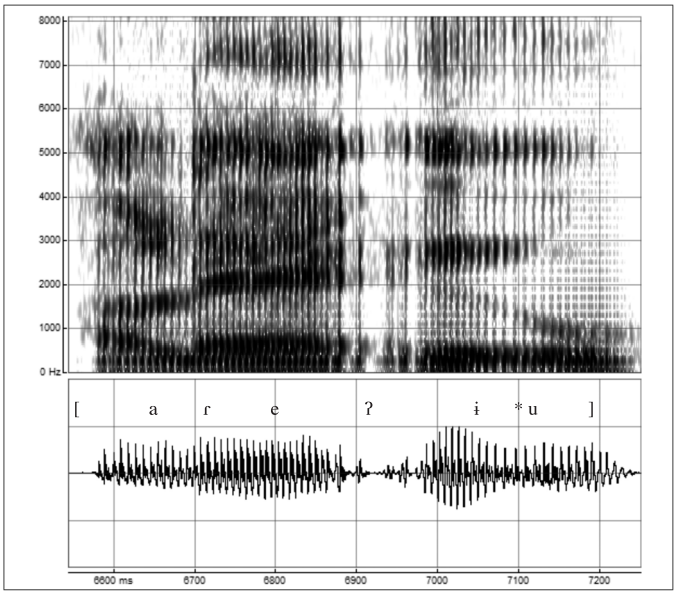

Figure 11. Illustration of the glottal stop and a voiced laryngalized transition (symbolized by [*]) between two vowels in the word [aɾeʔɨ*u] 'I drink/drank' in Sateré Mawé (Sergio Meira, personnal communication).

Stenzel argues that treating glottal stops as suprasegmental has the advantage of explaining why they have a very restricted distribution in words when compared to other consonants. Also, she claims that the suprasegmental analysis accounts for the unusual behavior of glottal stops in syallable structure: they are the only conosonants that violate the no-coda restriction and they only occur in onset position root-internally. Other advantages mentioned by Stenzel are related to a simplification of the phonological patterns of roots.

5. Pitch, accent and tone

Many South American language families have been described as containing pitch accent languages (e.g. Tukanoan [Tuyuka], Tupían [Karitiana, Juruna, Karo], Chibchan [Uw Cuwa]) or tonal languages (e.g. Tukanoan [Barasana], Tupían [Suruí, Gavião, Mundurukú], Tikuna, Nambikwara, Macro-Jêan [Guató and Yatê], Chibchan [Bari], Chonan, and Bora-Witotoan). We believe that the distinction between pitch accent and tonal languages can be made based on the following characterization: (1) pitch accent languages attach tonal melodies to one prominent syllable per word, and in that respect they are similar to stress languages, because in both types of systems prominence in words is computed metrically; (2) tone languages,

instead, use pitch to mark lexical and grammatical distinctions. In South America, some language families (Tupían, Tukanoan and Chibchan, for instance) have both tonal and pitch accent languages, which raises an interesting question that linguists still have to tackle: tonogenesis, that is, the origin of tonal systems, and the relationship between pitch accent systems and tonal systems. That is, should we hypothesize that pitch accent systems always derive historically from tonal systems? At the present moment in the description of these systems we can only speculate. (Campbell [typology, this volume] subsumes pitch accent under tone.)

5.1. Tupían languages

Tupían languages constitute an interesting case with respect to the questions mentioned in the introduction to this section, because in the Tupían family of languages there are three subfamilies comprised solely of stress languages (Tupí-Guaranían, Mawé and Aweti), two subfamilies that have only tonal languages, i.e. Mondé (Moore 1984, 1999) and Munduruku (Picanço 2005)), two subfamilies with unpredictable pitch accent (Juruna [Fargetti 2001] and Ramarama [Gabas Júnior 1999]), and one subfamily with predictable pitch accent (Arikém). In the remaining two subfamilies (Puruborá and Tuparí), the situation is not clear. Puruborá has been described as having predictable final stress, although it is practically extinct, with two semi-speakers alive today who have not spoken the language for over three decades (Galúcio 2005); it is not clear whether, in such a case, a pitch accent system, if it existed, would have survived. The interesting fact to be noted is that the three uncontroversial stress language subfamilies are more closely related to each other than to any other language, constituting a genetic subgroup inside the Tupían family. If Proto-Tupían were either tonal or pitch accent, the loss of tonal melodies in one subfamily could easily explain the situation found today in the daughter languages, since the Awetí-Mawé-Tupí-Guaranían subgroup is the only genetic unit in which tonal melodies are clearly not present.

The tone system of Gavião ([Mondé], Tupían) has been described in Moore (1999) as a system that has two tones: H and L. A medium tone (unmarked in the examples below) may be derived by rule, but it is never lexically represented:

Tone realization in short vowels:

X sép ‘thin object (like a hair)’
|
H

X sèp ‘flat object (like a leaf)’
|
L

ja.p ‘arrow’

When a LH tone occurs in a short vowel after a H tone, there is a predictable lowering of the H (and all following Hs, such as the one in *sá* below) to a medium tone (M):

téja.p sá → téjap sa ‘Have you got an arrow?’

Tone realization in long vowels:

bííp ‘açaí palm tree’

gàà ‘to go’

X X èeʔ ‘that’

dáât ‘head’

There is also a rising-lowering pattern that has the following distribution:

At the the end of a word:

bo.ô ‘back’

In other environments:

bo.ó ‘back’

(L tone delinks from the last vowel of the root and all following Hs are lowered to M)

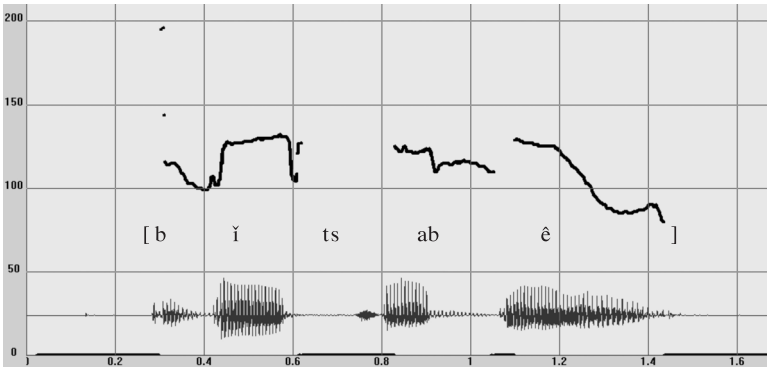

Figure 12. Fundamental frequency curve of the word bĭtsábê 'my shoe' in Gavião (Denny Moore, personal communication).

In Karitiana ([Arikém], Tupían) a tone melody (a boundary L or a grammatical H tone associated with the affirmative imperative suffix) spreads from right to left until it reaches a stressed syllable (the left boundary of a tone domain); the following syllables will have the opposite tone, until the end of the word or a stressed syllable is reached; spreading of tones goes on in the same predictable fashion, always respecting the stressed syllable as the left boundary of a tone domain. No lexical tones other than the H associated with the affirmative imperative have been identified to the present date.

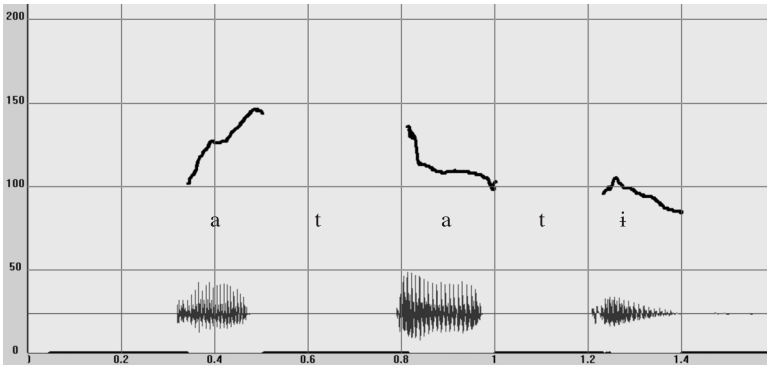

Figure 13. Funadmental frequency curve of the *atatɨ* 'do not go' in Karitiana.

Stress subordination (a process that normally originates secondary stress) in certain environments such as prosodic words (compounds, for instance) and phono-

logical phrases creates a destressing process that enables the spreading of a tone originally associated with a previously stressed syllable (Storto 1999; Storto and Demolin 2005).

Mundurukú is a tonal language whose phonology is described by Crofts (Crofts and Braun 1965) and Picanço (2005). Picanço shows that Mundurukú has two levels of tone (H and L), as opposed to the 5 levels described by Crofts. Picanço also shows that laryngealized vowels in Mundurukú always bear a L tone.

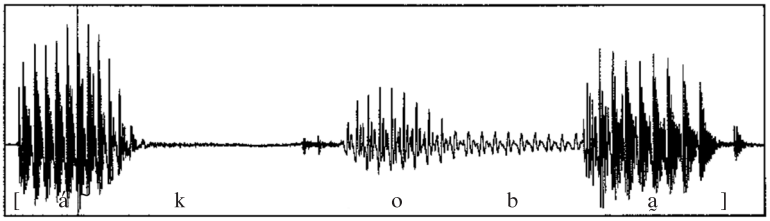

Figure 14a. Audio waveform of the word *ákobą* 'banana' in Munduruku showing a laryngalized vowel in the final morpheme, (adapted from Picanço 2005).

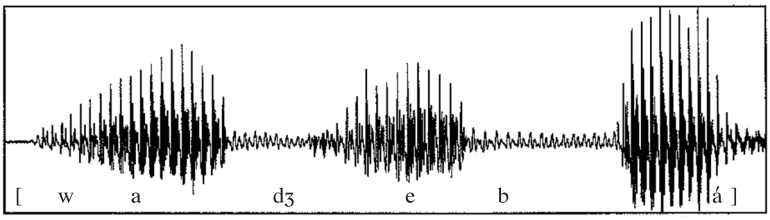

Figure 14b. Audio waveform of the word *wadʒebá* 'cocoa' in Mundurukú showing a modal vowel bearing a high tone in the final morpheme (adapted from Picanço 2005).

5.2. Chibchan languages

The Chibchan family has tonal languages and pitch-accent languages. According to Malone (2006), the only South American language in the family that has been described as tonal is Bari, whereas several Central American Chibchan languages have been described as tonal (Boruca, Bribri, Cabécar, and Guaymí).

In this section we discuss the tone and stress systems of Chimila, a Chibchan language spoken in Colombia, as described by Malone (2006). Malone describes Chimila as a limited tone language that shows complex interactions between lexical tone and metrical structure. He claims the language has primary and secondary stresses parsed in bimoraic trochees from left to right, with extrametricality of the rightmost syllable, and lengthening of vowels and consonants to obey a minimal word constraint. Primary stress occurs on the first syllable, and secondary stress

occurs in foot heads, starting from the foot immediately to the right of the leftmost foot bearing a H tone.

Malone gives evidence of lexical tone in Chimila showing that a contrast exists between H tone and the absence of tone in some minimal and near-minimal pairs that include canonical long vowels and in others with geminate vowels. According to the author, this kind of tonal contrast in bimoraic vowels is very common in the lexicon of Chimila; it generates four different surface patterns: 'HL, H'L, 'LH and L'H. A lexical H tone also marks imperatives and in all such cases consonant length is associated with high tone. In trisyllabic words, there is a contrast between MHL and HML words, and consonant length also occurs associated with a H syllable. The author claims that at least in some of these cases H tone must be lexically marked. Two other grammatical uses of H tone are exemplified: one in which contraction (the omission of a suffix) generates a H tone on the second syllable of a trisyllabic word, and one in which transitive verbs inflected for singular and plural objects have two different tone patterns (stress in the leftmost syllable in both cases, but H tone in the first syllable for singular forms and H tone in the second syllable preceded by a M in plural forms). Malone claims that there have been cases of grammaticalization of these patterns. Even in these cases there is a correlation between H tone and consonant length in that consonants preceded by a H tone are one mora longer than the ones preceded by a M tone. The author concludes that syllables bearing lexical H tone must form themselves bimoraic trochaic feet, contrary to syllables bearing secondary stress, that need to be the leftmost mora of a bimoraic trochaic foot. In our interpretation, the kinds of interactions described by Malone seem to indicate that Chimila is a pitch accent language, since a H tone is always associated to primary stress and metrical prominence (vowel or consonant lengthening).

5.3. Tukanoan languages

Gomez-Imbert (2003: 178; and its English version [2001: 372]) gives the following examples for the four tonal schemes of Barasana verbal and nominal roots: H, LH, HL and LHL derived from two basic underlying tonal schemes, H and HL, with an initial extrametricality accounting for the initial Ls. According to Gomez-Imbert (2003), noun and verb roots are the first morpheme of each word in the sentences below, in which nouns are followed by the suffixes *-re* 'object case' or *-o* 'agreement' (Gomez-Imbert 2001) and verbs are suffixed by *-bi* or *-bo* 'completed'):

H		HL	
Hóá -ré	cúá- ~bí	Báa -~bo	~róbi -o
O	V	V	S
'he cut the hair'		'the woman swam'	

LH		LHL	
Kahí -ré	baá- ~bí	wɨhɨ́bo -re	cuá -~bi
O	V	O	V
‘he ate the coca’		‘he wove the tray (balay)’	

Although H or HL tone is claimed to be an unpredictable property of the morpheme in Barasana, Gomez-Imbert and Kenstowicz (2000) argue that Barasana has many of the properties of prototypical pitch accent systems:

– Autosegmental tone and metrical accent principles guide the patterns found in the language.
– The left edge of each morpheme must have a characteristic tonal profile.
– When morphemes are combined into words, one of the pitch accents is projected to become the nucleus of the word’s F0 contour.
– Accent projection proceeds via a metrical construction that enhances HL accents over plain H and leftmost accents in case of a tie.
– Once the most prominent mora for the word is found, all other pitch accents are deleted, and remaining moras assimilate the tones comprising the pitch accent of the metrical peak.
– Nominal constructions: the accent of a noun is replaced when it forms a compound with a preceding element. The accent of the first element in the construction is extended, projected or replicated onto the second element.
– Verbs: there are tonal prefixes marking subject person agreement that displace the stem accent to the metrically prominent position of the following morpheme. Verb inflection also comprises tonal prefixes and suffixes marking modal and aspectual distinctions.

Gomez-Imbert (2001) discusses the pitch accent versus tonal profile for Barasana and concludes that Barasana is a language with underlying tones that has metrical phenomena similar to pitch accent languages like Japanese.

Stenzel (2007) also claims that Wanano (Eastern Tukanoan) is a language with unpredictable H and HL lexical tone (where an initial L in some roots is considered extrametrical, as in Barasana) that displays metrical phenomena involving tones. She gives the following minimal pairs for roots:

tùá ‘be strong’
túá ‘enjoy’
tóá ‘be fast’
tóà ‘plant’

The description of metrical phenomena involving tone given by Stenzel is the following:

> The tonal melody aligns to the left edge of the root and each tonal element is associated one-to-one from left to right to a mora, identified as the tone-bearing unit (TBU) […] Any unassociated moras are targets for immediate tonal spread from the left.
> Stenzel (2007: 347)

Stenzel explains that since most suffixes are unmarked for tone they often receive the tonal melodies that spread from the roots.

Our interpretation of the Tukanoan data discussed is that, since Tucanoan languages assign tonal melodies based on metrical principles, they are more similar to pitch accent languages than to tonal languages. The two patterns of lexical tone that these languages exhibit in nouns and verbs are not predictable, but that does not necessarily mean that tonal melodies have to be specified for each root in the lexicon of such languages. One can interpret the two existing tonal melodies in nouns and verbs as grammatical tonal morphemes that the language uses as stem formatives, that is, functional markers of class membership. In Barasana, functional – as opposed to lexical – morphology is often marked by tones: we see it in person verb agreement, and to mark modal and aspectual distinctions. It is, thus, possible to analyze tone in these languages as limited to inflectional morphology.

5.4. Glottal segments and tonogenesis

Matisoff (1973, 1999) has demonstrated that tonogenesis, or the origin of tonal systems in Asian languages, was caused in some cases by the loss of voicing distinctions in word-initial syllables or word-final glottal consonants – a glottal stop or voiceless fricative – that have a lowering or raising effect on the pitch of the preceding vowel. He has shown, crucially, that suprasegmentals such as tones may arise historically as a compensation for the loss of segments that were responsible for lexical distinctions.

Furthermore, Matisoff (1999) points out that tones themselves are often part of a complex set of phenomena that include phonation types, tongue position, pharyngeal tension, lengthening of vocal folds, as well as pitch modulations. He has shown that, in Asian languages, a tense larynx is associated with high pitch, raising contours, glottal stops, lack of voicing, a retracted tongue root and laryngealization, and a reduced cavity above the glottis, whereas a relaxed larynx is associated with a lower pitch, a falling contour, glottal fricatives, voicing, aspiration, a projected tongue root, and a larger cavity above the glottis. However, these facts do not seem to be universal, since Demolin (1999) and Silverman (2003) have demonstrated recently that the association between laryngealization and a raised pitch does not hold for some African (Nilotic) and Central American (Jalapa Mazatec) languages.

Although nothing conclusive can be said about tonogenesis in South American languages at present, it is possible to speculate that the above mentioned supraseg-

mental use of glottal stops in Tupían and Tukanoan languages may one day prove to have a role in explaining the origins of their tone and pitch accent systems.

Abbreviations: A and M 'Adelaar and Muysken', aff 'affricate', affrs 'affricates', appr 'approximant', approxs 'approximants', D and A 'Dixon and Aikhenvald', frics 'fricatives', lat 'lateral', gls 'glides', nas 'nasal', resons 'resonants', vibr 'vibrant'.

Appendix

Languages of the Lowlands

Table 1. (Cariban)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
(Cariban) System presented is found in 17 Cariban languages; symbols in parenthesis are only found in some of these languages	stops: p t k (ʔ) (kʷ) (b) (d) (g) affrs: (tʃ) (dʒ) frics: (ɸ) s (ʃ) (x) h (β) (z) (ʒ) nasals: m n ɲ tap: ɾ (ɹ) lat: (l) gls: w y See "observations"	i ɨ u e (ë) (ö) o a (some long) *i* is not phonemic in Hixkaryana, being a variant of *e* in palatal environment; *ë*: Trio, Wayana, Dekwana, Panare; *ö*: Arekuna, Akwaio.	Stress predictable, except in Panare. (C)(C)V(V)(C): word or phrase-initial position; C(C)V(V)(C) elsewhere; in languages with vowel sequences or long vowels there is no VVC, except in Dekwana, which can have C(C)## following a long or short vowel. Coda restrictions: Galibi: nasals, h, x, ʔ; Makushi: h, n; Wayana: p, t, k, m, n, h; Apalaí: ʔ, ʃ; Panare: ʔ, h, m, n. (C)V and no coda in Upper Xingu (Franchetto, p.c.)	*p* is lacking in Wai Wai; *ɲ* is lacking in Galibi, Waimiri-Atroari, Makushi, Wayana, Apalaí, Bakairí and Txikão; *w* and *y* are lacking in Txikão, according to Emmerich; *ɾ* is replaced by *l* in Wayana, *s* is lacking in Trio, Txikão and Wayana; *h* is lacking in Arekuna, Akawaio, Apalaí and Txikão. Also *ts* and *ŋ* in Southern languages (Franchetto, pc)

Table 2. (Arawakan)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
(Arawakan) System presented is a representative composite of Arawakan languages; the likely phoneme system of proto-Arawakan comprises these consonants; symbols in parentheses are only found in some of the languages	stops: p t k (ʔ) (p^h) (t^h) (k^h) (b) d (g) affrs: ts tʃ frics: (ɸ) s ʃ h nasals: m n ɲ vibrant: r lat: l gls: w y r can be a tap or a trill (the latter in Bauré, Ignaciano, Añun, and Garifuna).	i ɨ u e a long and short Minimal system is of 3 vowels *i*, *u*, and *a* or *e*, *o*, and *a*. Glottalized vowels: in Resigaro, Yucuna and Yaneshá; Nasal vowels: in Wayana, Apalaí, Wapishana, Mawayana, and Tariana.	stress is contrastive in some languages and predictable in others (Campa and Bahwana); stress assignment may depend on syllable weight; there are tonal and pitch accent languages; in most languages, syllable structure is (C)V(V)(C). Coda restrictions: glides or nasals, and, rarely, liquids or *h*. C clusters found only in Piro.	*ʔ* is found only in 13 languages (out of 40); in Wayana and Piro, *ʔ* or *h* are inserted before a word-initial vowel; the phonme *h* often occurs only word-initially or word-finally as a word boundary marker; A full set of aspirated voiceless stops is found only in some North Arawakan languages.

Table 3. Tupían family

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Tupían family (comprised of 10 subfamilies: Arikém Awetí Juruna Mawé Mondé Mundurukú Puruborá Ramarama Tuparí Tupí-Guaranían) Modified from Dixon and Aikhenvald (1999) to include original information from the Tupían Comparative Project, carried out by researchers associated to the Goeldi Museum, Pará, Brazil. For more details on the phonology of Tupían languages, see Sections 3 to 6.	stops: p t (c) k (ʔ) (k^w) (b) (d) (ɟ) (g) affrs: (ts) (tʃ) (dʒ) frics: (β) s (ʃ) h (v) (z) nasals: m n (ɲ) (ŋ) ($ŋ^w$) tap: ɾ lat: (l) gls: w (y) *c* is present in Gavião (Mondé), where *ɟ* also occurs, and in Karo (Ramarama); Munduruku has phonemic *tʃ* and *dʒ*; voiced stops are not found in the Arikém, Mawé, Awetí and Tupí-Guaraní families, and, except for Gavião, only two are found in each language; *ɲ* occurs in the Arikém, Mondé and Puruborá families; *ŋ* is absent in Juruna, and, maybe, in Puruborá; labialized consonants occur in Tuparí languages and in Proto-Tupí-Guaranían.	i ɨ (u) e (ə) o a (plain, long, nasal) 2 families have 7 vowel qualities: Puruborá and Ramarama; 3 families have 6 vowel qualities, excluding *ə*: Tupí-Guaraní, Mawé, and Awetí; remaining families have 5 vowel qualities: Mundurukú has *ə* instead of *ɨ*, Juruna has *u* instead of *o*; In Mundurukú, there is also a complete set of phonemic laryngealized vowels. Nasal laryngealized vowels also occur in the language (Picanço 2005).	Some languages are tonal (all languages from the Mondé family, and Mundurukú) others have pitch accent (predictable in Karitiana, and unpredictable in Juruna and Karo), others have stress (languages from the Awetí, Mawé and Tupi-Guaraní families). Laryngealized vowels in Mundurukú always have a L tone (Picanço 2005).	The following families have both nasal and long Vs: Arikém (Karitiana), Mawé, Mondé (Gavião), Tuparí (Mekéns), and, maybe, Puruborá. Some families have nasal but not long Vs: Ramarama and Juruna, where long Vs occur phonetically, and Awetí, Tupí- Guaraní and Mundurukú. In Karo (Ramarama), nasal Vs are limited to 4 qualities (*ĩ*, *ẽ*, *ã*, *õ*). Gavião and Mekéns have no *h*; Puruborá, and Awetí have no *s*, and *ʃ* and *ts* occur instead, respectively. Karo has no *s* and may have no *h*; Poto-Tupí-Guaraní has *p^j> $ʈ^j$ > tʃ>ʃ or ts >s, and maybe *m^j; *ʔ* is not phonemic in 4 families.

Table 4. Macro-Jêan

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Macro-Jêan (12 families (D and A): Jêan Kamakã Maxakalían Krenak Puri Karirí Yatê Karajá Ofayé Bororoan Guató Rikbaktsa Plus 3 families (Ribeiro 2006) Otí Jabutían Chiquitano Phonological systems presented are a composite based on Dixon and Aikhenvald (1999)	stops: p t (ts) tʃ k (kʷ)(ʔ) (pʰ) (tʰ) (tsʰ) (tʃʰ) (kʰ) (b) d (dz) (dʒ) (g) (gʷ) (ɗ) frics: (f) (θ) (s) (ʃ) h (z) nas: m n ɲ ŋ tap: r lat: (l) gls: w y Yatê and Kipea (Kariri) are unusual in preseting an alveolar group of Cs *ts*, *tsʰ*, *dz*, *s* and *z* besides the usual dental and alveo-palatal; Yatê is the only language to have a series of aspirated Cs; Guató is unusual in having labialized Cs; voiced stops have nasal or partially nasal allophones in many languages outside the Jêan family; Davis 1966 reconstructed only nasals for Proto-Jêan; Bororo has 4 voiceless stops in the usual points, as well as voiced ones, but no fricatives at all; Yatê and Guató are unusual in having *f*; Maxakalí has the same Cs as Bororo, plus *ʔ* and *h*, but no glides nor *ɾ*.	i (ɨ) (u) e (ə) o (ɛ) (ʌ) (ɔ) a (oral and nasal) Minimally 5 Vs: the 4 above plus *ɨ* (eg. Maxacalí, with oral and nasal Vs); adding *u* to that, we have 6 Vs as in Rikbaktsa (oral and nasal); adding a mid central V, we have 7 Vs as in Bororo; *ɛ* and *ɔ* also occur, sometimes without any central Vs (as in Yatê), sometimes with *ɨ* (as in Guató), or with *ɨ* and without *ɔ*, as in Ofayé; a complete 9 vowel system is that of Kaingang (Jêan); in Apinaje (Jêan), there is an additional *ʌ*.	Two tonal languages have been identified: Yatê and Guató. There are two distinctive levels of tone (H and L) in these languages, but in Yatê the final syllable tends to have a middle tone. Jêan languages have C clusters limited to a combination of a labial or velar stop or nasal, followed by a tap; Yatê has more complex clusters, with up to 4 Cs (*kwl*, *hkl*, *nklj*, *fk*, *tʃkj*, *fn*, *tsf*, *thl*, *kts*, *htʃ*, etc.); Xerente (Jêan) has also developed more complex word-initial clusters such as *ps*, *bd*, *kn*, *tb*, *sb*, *sh*, *sr*, *zr*, *rb*, *krs*.	Nasal vowels often are a subset of the oral in terms of quality: Ofayé has *ĩ*, *ɨ̃*, *ã* and *õ*, short and long, for oral and nasal vowels; Guató has those same 4 nasals plus *ẽ*; Kaingang (Jêan) has *ĩ*, *ɛ̃*, *ã*, *ə̃* and *ũ*; Apinajé (Jêan) has those same nasal Vs (except that the mid central vowel is *ʌ̃*), plus *ɨ̃* and *õ*. Guató and Yatê do not have nasal Vs. Karajá has an asymmetric system: no *p* or *t*, but *tʃ*, *k b*, *d*, *dʒ*, an implosive and *θ*, *ʃ* and *h*; it has *w* and both *l* and *ɾ*.

Table 5. Proto-Tukanoan (Tucanoan)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Proto-Tukanoan (Tucanoan) Divided in Eastern (Piratapuya, Tucano, Wanano, Bará, Carapana, Desano, Siriano, Tatuyo, Tuyuca, Yuruti, Barasana and Macuna), Central (Cubeo, Tanimuca) and Western (Koreguaje, Secoya, Siona, Orejon) branches. Franchetto and Gomez-Imbert (2003, 2004) correct that there is no evidence for a Central Tukanoan family; Cubeo belongs to the Eastern and Tanimuca to the Western branch.	stops: p t k b d g frics: s gls: w y In the Eastern and Central languages, b, d, g, r, w, y and h are realized as m, n, ŋ, r̃, w̃, ỹ, and h̃ in nasal morphemes. All languages today maintain voicing distinction in stops	i ɨ u e o a Tanimuca lacks the high central vowel, and all other systems have the 6 reconstructed vowels; vowels are nasalized in nasal morphemes	Basic syllable: (C)V, and for those languages with glottal stops, an additional (C)Vʔ. For languages with dipthongs, (C)VV. Tucanoan languages have morphemic nasalization. Tucanoan languages have pitch accent systems.	Koreguaje has nasals rather than voiced stops; Wanano has voiceless, voiceless aspirated and voiced stops; Orejón has *b*, *d* and *ɓ*, *ɗ*. Secoya and Siona combine nasals and voiced stops in opposition to voiceless stops. A glottal stop occurs in 4 Eastern, and all Western languages.

Table 6. Panoan (branch of Pano-Tocanan family)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
(Panoan) Comprised of 3 subgroupings (Yaminawa, Chacobo and Capanawa), and 3 living ungrouped languages (Cashibo, Kaxariri and Matsés)	stops: p t k ʔ ts tʃ frics: s ʃ ʂ h β r nas: m n gls: w y	i ɨ ɯ (e) a *ɯ* must be what Loos (1999: 230) describes as a "high, back open unrounded *o*"	stress; nasalization spreads from a nasal C to the left through vowels and glides, and when the nasal is followed by *w*, *y*, *h* or *ʔ* nasalization also spreads to the right.	Matsés and Cashibo have *e*, and the latter also has *ɔ*; nasal spreading process is missing in Chacobo, and to a large extent in Yaminawa, Sharanawa, and Yoranawa, where *b* and *d* surface instead

Table 7. Makúan

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Makúan	stops: p (ṭ) t k ʔ b d g affrics: tʃ (dʒ) frics: (ʃ) h lats: (l) (ɾ) (r) nas: (m) (n) gls: w y In some languages *m* and *n* tend to be denasalized *b* and *d* except when followed by a nasal V.	i (i̇) u e o (ɛ) (ɔ) a (also nasal, also long) All languages except Kakua have the above Vs, plus *ĩ*, *ũ*, *ã*. Dâw also has *i̇*, *ɨ̃*, *ə*, *ɛ*, *ɛ̃*, *æ*; Hupda-Yuhup also have *i̇*, *ɨ̃*, *ə*, and Nadëb also has *ɯ*, *ɤ*, *ɛ*, *ɛ̃*, *ʌ*, *ɔ*, *æ*. Kakua has *a*, *e*, *i*, *o*, *i̇*.	(C)(C)V(C); stress, pitch accent and tone. nasalization is a syllable prosody in Hupda-Yuhup, Kakua-Nukak, so that *b*/*m*, *d*/*n*, *g*/*ŋ* are allophones. Long vowels only in first syllable of a C-initial polysyllabic word	Nasal vowels are described as phonemic only in Dâw and Nadeëb. Dâw and Hupda-Yuhup have prenasalized stops as word-final allophones of simple stops

Table 8. Nambikwara)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
(Nambikwaran) 3 languages: Southern Nambikwara dialects, Mamaindê or Nakarothe and Sabanés	stops: p t k ʔ d frics: (f) s h lats: l nas: m n gls: w y f only in loan words; m abstent in Southern Nambikwara; aspiration can be contrastive on p, t, k, h, l.	i u e o a (oral and nasal) (laryngealization is contrastive on oral and nasal Vs)	(C(CCC))V(C) tonal languages; predictable stress is described to occur on the last syllable of a morpheme cluster, interacting with tone.	*m*, *bm*, *dn* and *gŋ* are allophones of the phoneme *n*; the latter 3 occur on coda position after an oral V and before a homorganic voiceless stop word-internally.

Table 9. Proto-Arawan (Arawan)

Language [subgroup] (family)	Phonemic Consonants						Phonemic Vowels	Suprasegmentals	Observations
Proto-Arawan (Arawan)	stops:	p	t		k	ʔ	i	(C)V	In Sorowahá *ɨ* is an allophone of *i*, *a* or *o* in unstressed position (innovation by young speakers)
		p^h	t^h		k^h		e o		
		b	d		g		a		
Paumarí, Madi, Sorowahá, Dení, Kulina e Arawá		ɓ	ɗ						
	frics:		ts	tʃ		h			
			ts^h				In Paumarí and Sorowahá *e* has been lost		
			dz						
	nas:	m	n						
	tap:		ɾ						
	gls:	w							

Table 10. Jebero (Cahuapanan)

Language [subgroup] (family)	Phonemic Consonants						Phonemic Vowels	Suprasegmentals	Observations
Jebero (Cahuapanan)	stops:	p	t		c	k	i u	stress is predictable; the first syllable of a disyllabic word is stressed and in words with three or more syllables the second syllable is stressed	nasalization, glottalic quality and *r*-quality is considered a syllable prosody in Jebero.
	ʔ						ɨ		
						k’	a		
the only other language in the family: Chayahuita	frics:		s	ʃ					
	nas:	m	n		ɲ	ŋ	In Chayahuita, Vs can be nasal, long glottalized, and aspirated		
	taps:		ɾ						
			ɾ’						
	lats:		l		ʎ				
	approxs:	w	ɹ		y				

Table 11. Yaguan

Language [subgroup] (family)	Phonemic Consonants						Phonemic Vowels	Suprasegmentals	Observations
Yaguan	stops:	p	t		k		i ɨ u	Tonal (H and L)	Nasal consonants are pronounced as prenasalized stops (*mb*, *nd*) in the environment of oral vowels; labial consonants have labialized allophones
							e		
	k’						ɔ		
	affrics:		ts	tʃ			a		
	frics:				h		Vowels get palatalized in the environment of /y/		
	nas:	m	n						
	taps:		ɾ						
	approxs:	w		y					

Table 12. Arabela (Zaparoan)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Arabela (Zaparoan)	stops: p t k frics: s ʃ h nas: m n tap: ɾ approxs: w y *t*, *k*, *n*, *ʃ* and *ɾ* can be lengthened and glides can be nasalized	i ɨ u e o a long and short Zaparo and Iquito have 4 vowels (without *i*)	syllables are open with the exception of those closed by *h* and *ʔ* Iquito, a language of the Zaparoan family, has been reported to have tone	labialization and palatalization of consonants following *u* and *i* respectively; *h* has a nasal quality and vowels are nasalized following h and nasal Cs

Table 13. Yanomaman

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Yanomaman 4 languages Yanomamɨ, Yanomam, Yanam, and Sanuma	stops: p t k frics: (f) s (ʃ) h affr: (ts) (tʃ) th nas: m n tap: ɾ approxs: w y *t*, *k*, *n*, *ʃ* and *ɾ* can be lengthened and glides can be nasalized	i ɨ u e ə o a Yanam has lost the vowel u	main stress is penultimate; secondary stress to every second syllable before main stress word-final vowels are weakened because they are unstressed; (C)(C)V with the following clusters: *pr*, *kr*, *mr* and *hr*	morphemes are either intrinsically nasal or oral, and nasality spread rightward to oral suffixes being blocked by stops and fricatives

Table 14. Trumai (Isolate)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Trumai (Isolate)	stops: p t̪ t t’ d frics: f s ʃ affr: ts, ts’ nas: m n lats: l lat fric: ɬ tap: ɾ approxs: w y	k ʔ k’	i ɨ u e o a	(C)V(C) stress on last syllable of a word

Table 15. Pirahã (Muran)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Pirahã (Muran)	stops: p t k ʔ b g frics: s h Everett (1986) suggests that *k* can be regarded as underlying [hi]	i o a vowels may optionally be nasalized after *h* and *ʔ*	tonal, H and L.	Pirahã women articulater /s/ as [h] before /i/ and sometimes elsewhere

Table 16. Djeoromitxi [Jabutían]

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Djeoromitxí [Jabutían] Classified as Macro-Jêan by Ribeiro (2006), van der Voort (2007), Ribeiro and van der Voort (2010)	stops: p t k b d g frics: β h affrs: ps tʃ bz dʒ nas: m n tap: ɾ	i ɨ u e ə o a nasal ĩ, ẽ, ã, õ	stress not contrastive; generally falls on last syllable of the word (C)V	

Table 17. Wari (Chapacuran)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Wari (Chapacuran)	stops: p t k ʔ k^w frics: h h^w affr: tʃ nas: m n m' n' tap: ɾ approxs: w y	i u e a plus two front unrounded vowels: high open *ɤ* and mid close *ö*	CV(C) stress on last syllable of the word	glottalized nasal consonants

Table 18. Aikanã (Isolate)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Aikanã (Isolate)	stops: p t k ʔ b d frics: s h ð affr: ts nas: m n ɲ tap: ɾ approxs: w y	i u e a plus a front unrounded *ö*	Unclear whether there are contrastive tones	

Table 19. Kwazá (Isolate)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Kwazá (Isolate) (van der Voort 2004)	stops: p t c k ʔ impls: ɓ ɗ frics: s ʃ h affr: ts tʃ nas: m n tap: ɾ approxs: l where *ɗ* is dento-alveolar	i ɨ u e œ o ɛ a plus 7 nasal vowels	Unclear whether stress (on last syllable of the stem) is contrastive. (C)V(V)	Glides *w* and *y* are allophones of *u* and *i*.

Table 20. Cavineña (Pano-Tacanan)

Language [subgroup] (family)	Phonemic Consonants	Phonemic Vowels	Suprasegmentals	Observations
Cavineña (Pano-Tacanan)	stops: p t c k ʔ b d ɟ k^w frics: s ʃ h affr: ts tʃ nas: m n ɲ flap: ɾ approxs: w l	i e o a [u] is an allophone	Stress is not contrastive, falling on the penultimate syllable of a root	

Table 21. Cayuvava (Isolate)

Language [subgroup] (family)	Phonemic Consonants						Phonemic Vowels			Suprasegmentals	Observations
Cayuvava (Isolate)	stops:	p	t	c		k	i	ɨ	u	Stress is contrastive	
		b	d	ɟ			e		o		
	frics:		s	ʃ		h			ɔ	(C)V	
		β		ʒ			æ	a			
	nas:	m	n	ɲ			(oral and nasal)				
	flap:		ɾ								
	approxs:	w									

Table 22. Itonama (Isolate)

Language [subgroup] (family)	Phonemic Consonants							Phonemic Vowels			Suprasegmentals	Observations
Itonama (Isolate)	stops:	p	t		tʸ	k	ʔ	i	ɨ	u	(C)V	
		b	d					e		o		
	glott:		t’			k’			a			
	frics:						h					
		β										
	affr:			tʃ								
				tʃ’								
	nas:	m	n	ɲ								
	lats:		l									
	flap:		ɾ									
	approxs:	w		y								

Table 23. Movima (Isolate)

Language [subgroup] (family)	Phonemic Consonants						Phonemic Vowels			Suprasegmentals	Observations
Movima (Isolate)	stops:	p	t	c	k	ʔ	i		u	(C)V	
		b	d				e		o		
					kʷ			a			
	frics:		s			h					
		β									
	nas:	m	n								
	gl nas:	ʔm	ʔn								
	lat flap:		r								
	flap:		l								
	approxs:	w		y							

Table 24. Sáliba (Guahiboan)

Language [subgroup] (family)	Phonemic Consonants						Phonemic Vowels		Suprasegmentals	Observations
Sáliba (Guahiboan)	stops:	p	t		k	ʔ	i	u	(C)V	Neighboring languages to Andoké have tone (the Witotoan languages Ocaina and Bora). Andoké has also a complex vowel system, with nine oral (including ə, ʌ, and a low back ɑ) and five nasal vowels (ĩ, ã, ə̃, õ, ũ).
		b	d		g		e	o	A nasal is permitted in Coda position but no stops	
					k^w		a			
					g^w					
	frics:	ɸ	s		x	h	Most Guahiboan languages also have *ɨ*			
	affr:			dʒ					Stress is contrastive	
	trill:		r							
	flap:		ɾ							
	nas:	m	n							
	approxs:		l							
	glides:	w		y						

Table 25. Yaruro (Isolate)

Language [subgroup] (family)	Phonemic Consonants							Phonemic Vowels			Suprasegmentals	Observations
Yaruro (Isolate)	stops:	p	t	c	k	ʔ		i	ɨ	u		
		b	d	ɟ	g			e	ə	o		
	frics:	f	s	ʃ	x	h		æ		ɔ		
		v	ð	ʒ				a		ɑ		
	affr:		ts									
			dz									
	flap:		ɾ									
	nas:	m	n	ɲ	ŋ							
	lat:		l									
	glides:	w		y								

Table 26. Warao (Isolate)

Language [subgroup] (family)	Phonemic Consonants						Phonemic Vowels		Suprasegmentals	Observations
Warao (Isolate)	stops:	p	t		k		i	u	(C)V	[d] is an allophone of /r/ in initial position
					k^w		e	o		
	frics:		s			h	a		Stress is on the penultimate	
	flap:		ɾ							
	nas:	m	n				(oral and nasal)			
	glides:	w		y						

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Table 27. Waunana (Chocoan)

Language [subgroup] (family)	Phonemic Consonants (20)	Phonemic Vowels (10)	Suprasegmentals	Observations
Waunana (Chocoan)	stops: p^h t^h k^h p t k ʔ b d g fric/aff: s č h vibrs: r/rr resons: m n/l approxs: w y	i ɨ u e o a oral and nasal	stress	Lower Baudó (Chocoan) has the following differences: p t k b d ɓ ɗ

Table 28. Cuna (Chibchan)

Language [subgroup] (family)	Phonemic Consonants (22)	Phonemic Vowels (5)	Suprasegmentals	Observations
Cuna (Chibchan)	stops: p t k k^w pp tt kk kk^w b d g fric/aff: s č nasals: m n mm nn vibr: r lats: l ll approxs: w y	i u e o a long vowels in open syllables	stress normally on penult, vowels automatically long in stressed syllables; extra long vowels, analysed as sequences of long vowels, occur as well	palatal affricate acts as the geminate counterpart of alveolar fricative

Table 29. Arhuacan (Chibchan)

Language [subgroup] (family)	Phonemic Consonants (21)	Phonemic Vowels (6)	Suprasegmentals	Observations
Arhuacan (Chibchan)	stops: p t k ʔ b d g fric/aff: š ž h β č dž nasals: m n [ŋ] mm nn vibr: r/rr lats: l	i ɨ u e o a some nasal vowels of unclear status in Damana and Kogui	stress predictable in Damana and Ika, but distinctive in Kogui	no *ʔ* in Damana, *ŋ* only in Ika, *rr* only in Damana, *dž* not in Kogui, *š* marginal in Ika

Table 30. Chimila (Chibchan)

Language [subgroup] (family)	Phonemic Consonants (23)	Phonemic Vowels (20)	Suprasegmentals	Observations
Chimila (Chibchan)	stops: p t c k k^w ^{m}b ^{n}d ^{n}dž ŋg ŋg^w g g^w nasals: m n n^y ŋ ŋ^w fric/aff: s dž h vibr: r lat: l approx: w	i u e o a long, short, glottalized and aspirated	monosyllables bear contrastive tone if end in long vowel; polysyllables have a tone-bearing syllable by nature of following consonant	consonant gemination is automatic after a stressed short vowel; even more than once in a word

Table 31. Bari (Chibchan)

Language [subgroup] (family)	Phonemic Consonants (10)	Phonemic Vowels (20)	Suprasegmentals	Observations
Bari (Chibchan)	stops: t k b d fric: s h nasals: m vibr: rr resons: r y	i ɨ u e o a oral, nasal, long, short	tone; two melodies, low and non-low; grammatical tone is marked in genitive constructions.	resonants have variable phonetic realizations: they can be fully nasalized [*n* and *n*^{y}], oral, or slightly nasalized.

Table 32. Tunebo or Uw Cuwa (Chibchan)

Language [subgroup] (family)	Phonemic Consonants (14)	Phonemic Vowels (5)	Suprasegmentals	Observations
Tunebo or Uw Cuwa (Chibchan)	stops: t k k^w ʔ b fric/aff: s š h nasals: m n vibr: r oral appr: w y nas. appr: w̃	i u e o a	stress is contrastive; a H tone exists which does not coincide with stress; minimal pairs of tone have been reported; in such pairs, descending tone occurs in long vowels	in syllable-initial vowels, glottal closure, aspiration and length play a role.

Table 33. NasaYuwe [Paez]

Language [subgroup] (family)	Phonemic Consonants (36)	Phonemic Vowels (32)	Suprasegmentals	Observations
NasaYuwe [Paez]	stops: p t c k p^h t^h c^h k^h p^y t^y c^y k^y p^{yh} t^{yh} c^{yh} k^{yh} ^{m}b ^{n}d ^{n}dz ^{ŋ}g ^{m}b^y ^{n}d^y ^{n}dz^y ^{ŋ}g^y fric: s h ɸ^y s^y h^y nasals: m n n^y lat: l l^y approx: w y	i u e a 32 vowels: Four series of each: plain, long, laryngealized, aspirated; oral or nasal	syllable structure: (CC)VC(C); stress may be contrastive	

Table 34. Guambiano (Barbacoan)

Language [subgroup] (family)	Phonemic Consonants (17)	Phonemic Vowels (5)	Suprasegmentals	Observations
Guambiano (Barbacoan)	stops: p t k affrics: c č ç̌ frics: s š ṣ̌ nasals: m n n^y vibr: r lat: l l^y approx: w y Guambiano has retroflex affricates and fricatives	i ɨ u e a lack of contrast between [o] and [u]		ɨ is described as either high or mid; other Barbacoan languages have *a*, *e*, *i*, *o*, *u* (tsafiki), *a*, *e*, *i*, *u* (Cha'palaachi); the latter has a length contrast (total of 8 vowels)

Table 35. Kamsá (Isolate)

Language [subgroup] (family)	Phonemic Consonants (22)	Phonemic Vowels (6)	Suprasegmentals	Observations
Kamsá (Isolate)	stops: p t k b d g affrics: c č ç̌ frics: ɸ s š ʂ̌ x nasals: m n nʸ vibr: r lat: l lʸ approx: w y Kamsá has retroflex affricates and fricatives	i ɨ u e o a	Stress is contrastive; last or penultimate	consonant clusters with up to three consonants; word-initially, r and y surface as *ř* and *dᶻ̌*; *ɸ* is preconsonanatal allophone of *p* or *b*; *ⁿd* and *ᵑg* are realizations of *d* and *g* after nasals, but also occur word-initially (may also be considered phonemes)

Table 36. Proto-Quechuan (Quechuan)

Language [subgroup] (family)	Phonemic Consonants (18)	Phonemic Vowels (6)	Suprasegmentals	Observations
Proto-Quechuan (Quechuan)	stops: p t k q affrics: č ç̌ frics: s š h nasals: m n nʸ vibr: r ř̥ lat: l lʸ approx: w y	i u a short and long	CV(C), and word-initial (C)V(C); few constraint on C clusters at syllable boundaries; word-final C clusters and word-medial clusters of more than two C are not allowed; stress is assigned to penultimate of a polysyllabic word; exceptionally, it is word-final.	For present day bilingual speakers, Quechua has a 3 vowel system; /i/ and /u/ become [e] and [o] in the environment of *q*; *ř* was an allophone of *r* that later developed into a phoneme; there are diphthongs; alveodental flap is also pronounced as a retroflex vibrant in most dialects.

Table 37. La Paz Aymara (Aymaran)

Language [subgroup] (family)	Phonemic Consonants (26)						Phonemic Vowels (6)		Suprasegmentals	Observations
La Paz Aymara (Aymaran)	stops:	p	t	č	k	q	i	u	stress is basically penultimate; long vowels in word-final position attract stress	/i/ and /u/ become [e] and [o] in the environment of *q*; morphemic vowel supression is common.
		p^h	t^h	$č^h$	k^h	q^h	a			
		p’	t’	č’	k’	q’				
	frics:		s		h	x	short and long			
	nasals:	m	n	n^y						
	vibr:		r							
	lat:		l	l^y						
	approx:	w		y						

Table 38. Jaqaru (Aymaran)

Language [subgroup] (family)	Phonemic Consonants (36)									Phonemic Vowels (6)		Suprasegmentals	Observations
Jaqaru (Aymaran)	stops:	p	c	t	t^y	č	ç	k	q	i	u		/i/ and /u/ become [e] and [o] in the environment of *q*; non obligatory lowering is found in other environments; vowel supression is common.
		p^h	c^h	t^h	t^{yh}	$č^h$	$ç^h$	k^h	q^h	a			
		p’	c’	t’	$t^{y’}$	č’	ç’	k’	q’				
	frics:			s		š		h					
	nasals:	m		n	n^y			ŋ		short and long			
	vibr:			r									
	lat:			l	l^y								
	gls:	w				y							

Table 39. Callahuaya

Language [subgroup] (family)	Phonemic Consonants (26)						Phonemic Vowels (10)		Suprasegmentals	Observations
Callahuaya	stops/	p	t	č	k	q	i	u		a glottal stop is attested between vowels of the same quality
	affr:	p^h	t^h	$č^h$	k^h	q^h	e	o		
		p’	t’	č’	k’	q’	a			
	frics:		s	š	x					
	nasals:	m	n	n^y						
	vibr:		r				short and long			
	lat:		l	l^y						
	approx:	w		y						

Table 40. Chipaya (Uru-Chipayan)

Language [subgroup] (family)	Phonemic Consonants (41)										Phonemic Vowels (10)		Suprasegmentals	Observations
Chipaya (Uru-Chipayan)	stops/ affr:	p p^h p’		ts ts^h ts’	t t^h t’	č $č^h$ č’	c̣ $c̣^h$ c̣’	k k^h k’	k^w	q q^h q’	q^w	i e	u o a	vowel length often the result of contractions; ##CC and CC## allowed.	*c* is an affricate; *q* and *x* are post-velar consonants; glottalized and aspirated Cs can coocur in a root; V supression is common
	frics:		s̱	s		š	š	h	h^w	χ	$χ^w$				
	nasals:	m			n	n^y			ŋ						
	vibr:				r							short and long			
	lat:				l	l^y									
	lat fr:				ɬ										
	gls:	w				y									

Table 41. Yaneshá or Amuesha (Arawakan)

Language [subgroup] (family)	Phonemic Consonants (24)									Phonemic Vowels (12)	Suprasegmentals	Observations
Yaneshá or Amuesha (Arawakan)	stops:	p	p^y	t	t^y		k	ky		e o a		
		b	b^y									
	affrs:			ts	č	c̣						
	frics:			s	š		x					
						ʒ̣	ɣ			plain, long,		
	nasals:	m	m^y	n	n^y					aspirated,		
	vibr:			r						laryngealized		
	lat:				l^y							
	gls:	w			y							

Table 42. Shuar or Jívaro (Jivaroan)

Language [subgroup] (family)	Phonemic Consonants (14)						Phonemic Vowels (8)		Suprasegmentals	Observations
Shuar or Jívaro (Jivaroan)	stops:	p	t		k		i	u	stress is contrastive, mostly penultimate on the radical	metathesis is common; [e] is analyzed as /a/; stops in radical-final position correspond to prenasalized stops
	affrs:		ts	č				ɨ		
	frics:		s	š		h		a		
	nasals:	m	n		ŋ					
	vibr:		r							
	gls:	w				y	oral and nasal			

Table 43. Witotoan

Language [subgroup] (family)	Phonemic Consonants (19)							Phonemic Vowels (12)			Suprasegmentals	Observations
Witotoan	stops:	p	t		k	kp	ʔ	i	ɨ	ɯ	tonal; H and L.	palatalization of Cs after *i*, and in some specific cases after a.
		p^h	t^h		k^h			e		o		
	affrs:		ts	č					a			
			ts^h	$č^h$								
	frics:	β					h					
	nasals:	m	n	(n^y)				short and long				
	sons:		r	(y)								

Table 44. Chiquitano

Language [subgroup] (family)	Phonemic Consonants (14)						Phonemic Vowels (12)			Suprasegmentals	Observations
Chiquitano	stops:	p	t	t^y	k	ʔ	i	ɨ	u		vowels can be nasalized; stops (not glottal) and nasals have palatalized stops after *i*; there are vowel sequences; some consonants are nasalized with affixes with nasal vowels, some Cs are nasalized
		b					e		o		
	frics:		s	š	x			a			
	nasals:	m	n	n^y							
	sons:		r				short and long				
	glide:			y							

Table 45. Toba (Guaicuruan)

Language [subgroup] (family)	Phonemic Consonants (20)								Phonemic Vowels (8)			Suprasegmentals	Observations
Toba (Guaicuruan)	stops:	p	t	č	k	q	ʔ		i			stress on the last syllable of the word; the most complex syllables are CVCC and CCVC; l and n can be syllabic word-initially	Klein posits a phoneme *r* instead of *d*; palatalization of both Vs and Cs in the presence of *i*.
			d		g	G			e		o		
	frics:		s	š			h			a			
				ž									
	nasals:	m	n	n^y					according to Klein (1978) vowel length is distinctive				
	lats:		l	l^y									
	glides:	w		y									

Table 46. Mapudungu (a.k.a. Mapuche, Araucano)

Language [subgroup] (family)	Phonemic Consonants (21)							Phonemic Vowels (6)			Suprasegmentals	Observations
Mapudungu (a.k.a. Mapuche, Araucano)	stops:	p	t̪	t	ʈ	č	k	i	ɨ	u	Consonant clusters mostly intervocalic, but may have word-final clusters that get separated by an epenthetic *ɨ*; nasal clusters are common	the consonant often [ɣ] accompanies [ɨ] (either before or after) and may not be phonemic; clusters involve CC or CCC with *w*.
	frics:	f	θ	s	ɾ	š		e		o		
	nasals:	m	n̪	n		nʸ	ŋ		a			
	lats:		l̪	l		lʸ		vowel *ɨ* can be realized as [ə] or [ɪ]				
	glides:	w				y	[ɣ]					

Table 47. Selk'nam (Chonan)

Language [subgroup] (family)	Phonemic Consonants (21)								Phonemic Vowels (6)			Suprasegmentals	Observations
Selk'nam (Chonan)	stops:	p		t	č	k	q	ʔ	e		o	roots are (C)V; proclitics are C-; suffixes are -C, -V, -CV, -VC or -CVC; there is V infixation, leading to VV; maximal syllables can be CCVCCC.	Vs followed by *h* are both lengthened and lowered; variation between *r* and *l* (different dialects or free variation)
		p'		t'		k'	q'		ɛ		ɔ		
	frics:		s̪	s	š	x	h			a			
	nasals:	m		n						ɑ			
	vibr:			r									
	lat:			l									
	gls:	w			y								

Table 48. Kawesqar

Language [subgroup] (family)	Phonemic Consonants (26)							Phonemic Vowels (6)	Suprasegmentals	Observations
Kawesqar	stops:	p	t	c~č	(k)	q		(i)	CCVVCC	Clairis treats the velar and uvular stops as a single phoneme, whereas Aguilera identifies a distinction; Aguilera treats aspirated stops as allophones of voiceless stops.
		p'	t'	c'~č'	k'~q'			(u)		
		(p^h)	(t^h)		(k^h~q^h)			e o		
		b	d		g	G		(æ) a		
	frics:		s	š	x	$x_ı$	h			
	nasals:	m	n					Clairis (1987) identifies 3 vowels and Aguilera (2002) recognizes 6		
	vibr:		r							
	lat:		l							
	gls:	w		y						

Table 49. Yahgan

Language [subgroup] (family)	Phonemic Consonants (16)							Phonemic Vowels (6)	Suprasegmentals	Observations
Yahgan	stops:	p	t	č	ç	k	(ʔ)	i u	Maximal syllable is CCVVCC; stress is not distinctive	For Golbert de Goodbar (1977–8) *ə* and *ɑ* are allophones of a single phoneme, the latter in accented position; Poblete and Salas (1999) treat the vowels æ and ə as phonemically distinct
	frics:	f	s	š			x	e ə o		
	nasals:	m	n					(æ) a		
	vibr:		r					(ɑ)		
	lat:		l							
	gls:	w		y	(ɹ)			Opposition is length is allophonic according to Golbert de Goodbar		

Table 50. Tehuelche (Chonan)

Language [subgroup] (family)	Phonemic Consonants (25)								Phonemic Vowels (6)	Suprasegmentals	Observations
Tehuelche (Chonan)	stops:	p	t	č	k	q	ʔ		e o	Cs can be syllabic; syllables can be complex up to CCCVC according to Fernández Garay (1998); stress is initial.	there are some lexical tone distinctions conditioned by the presence of a glottal stop.
		p'	t'	č'	k'	q'			a		
		b	d		g	G					
	frics:		s	š	x	χ			short and long		
	nasals:	m		n							
	vibr:			r							
	lat:			l							
	gls:	w		y							

Notes

1 We thank Hein van der Voort for an extensive review of this chapter. Any mistakes remain our own.
2 Nasalized vowels and consonants are exceptionally marked in these examples with a ~ symbol below them to allow tones to be marked by diacritics above the segment.

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Chibchan languages

Adolfo Constenla Umaña

1. Number and location of the Chibchan languages

Chibchan is the largest among the indigenous genealogical groups below the micro-phylum level found in southern Central America and northwestern South America. The exact number of Chibchan languages at the arrival of the Spaniards in the 16th century is unknown. There are 21 languages from which we have directly attested linguistic materials which allow subgrouping. In two other cases, indirectly attested linguistic data allow us to determine that the languages are Chibchan, but perhaps not to subclassify them with enough certainty: Huetar (Costa Rica) known through loanwords found in the variety of Spanish used now-a-days in the former territory of that ethnic group (Constenla-Umaña 1984), and Antioquian (Colombia) known from 34 words and phrases included in chronicles from the time of the conquest (Rivet 1946). Tairona (Colombia), known from lexical items preserved in the ritual speech of the extant peoples of the Sierra Nevada de Santa Marta (Reichel-Dolmatoff 1953), seems not to be another language, but a variant of the still spoken Damana (Jackson 1995: 68). Other extinct peoples such as the Lache, Morcote and Guane from the Department of Santander, Colombia, have been considered Chibchan, but no linguistic evidence has been offered in support of these proposals. The 23 languages for which evidence exists in favor of their attribution to the group are listed below with their locations, the numbers assigned to them on the map, and the abbreviation used in examples. In the case of the extinct languages, the time of their extinction is indicated. In addition to the name chosen in this article, the one used by the speakers in their own language (when known) is given in phonemic transcription, as well as some of the alternate names which occur in the literature.

(1) Paya. (Pa). /pètʃ/, [pèʃ] ‘the (language of the) people’. Pech. In eastern Honduras, mainly in several localities in the sorroundings of the town of Dulce Nombre de Culmí, Olancho department, but also in 3 locations in the Department of Gracias a Dios, and one location in the Department of Colón as well.

(2) Rama. (Ra). /ɾaːma kuːp/ ‘language of the Rama’. The Ramas were called Votos and occasionally Aramas or Arramas during the colonial times, and Melchoras in the 19th century. The Ramas live in southeastern Nicaragua. The last speakers are found mainly on the mainland south of Blufields lagoon. In recent times it was also spoken in the island of Rama Cay and to the west of the lagoon. In the 16th century the Ramas extended through a vast territory along the San Juan River

which included part of the San Carlos, Sarapiquí and Upala counties in the northern plains of Costa Rica, and the Solentiname Islands in lake Nicaragua.

(3) Guatuso. (Guat). /maleːku xaiːka/ 'the speech of our people'. Malecu. Three localities on the banks of El Sol River in the Guatuso county, northern plains of Costa Rica. In the 19th century Guatuso localities were found to the north on the banks of La Muerte River, and their hunting and fishing territory reached Caño Negro, near the border with Nicaragua. There are dialectal differences between the people of Tonjibe and those of the other two towns, Margarita and El Sol.

(4) Huetar. Spoken in central Costa Rica from the Pacific coast to the plains of the Atlantic watershed. It became extinct during the 18th century. It was considered the "general language" of Costa Rica by the Spaniards.

(5) Cabécar. (Cab). /sé ktʊ́/ 'our speech'. Also Cabécara in colonial sources (/kabékadà/[kabékaɾà] is the name of the ethnic group). Spoken in Costa Rica, along the Atlantic slopes of the Talamanca Mountain range and in adjacent parts of the plains, from Turrialba county (to the north) to the western part of Talamanca county (to the south). Due to migration at the end of the 19th century, also in the locality of Ujarrás in the southern part of the Pacific slope of the Talamanca Mountain Range. It has two well differentiated dialects: the northern one spoken in the areas of Chirripó and La Estrella, and the southern one spoken in western Talamanca county and in Ujarrás.

(6) Bribri (Bri). /sĕ uxtʊ́/ 'our speech'. Called Viceíta in colonial sources. Both the slopes of the Talamanca range and adjacent plains in the eastern part of Talamanca county are the original territory of this language. At the end of the 19th century, it extended to the slopes of the Talamanca range in the Pacific watershed. Bribri has three dialects: the western Talamanca county dialect, the eastern Talamanca county dialect, and the Buenos Aires county dialect.

(7) Boruca. (Bor). /dìʔ tègát/ 'our speech'. Brunka. The last fluent speakers died in 2004. There are about 20 semi-speakers with a passive command of the language. Buenos Aires county, southwestern Costa Rica. Historical evidence suggests that the Quepo and the Coto, who were the neighbors of the Boruca to the northwest and the southeast respectively, spoke the same language, which would have been the only one in that part of the country.

(8) Teribe/Térraba. (Te). /nã̀sɔ̀ kʰɛ̀ɾkuɔ́/ 'the language (tongue) of the people from here'. In colonial sources, the people and their language were called Térraba, Téxaba, Texbi or Terbi. The dialect spoken in the Teribe River area, in northwestern Panama, was called Tiribí in the 19th century and is called Teribe nowadays. Migration at the end of the 17th century to the current Buenos Aires county in southwestern Costa Rica gave rise to the Térraba dialect whose last fluent speaker died in 2003. Naso would probably be a convenient name for the language as a whole. The data used in this article are from the Térraba dialect.

(9) Chánguena. (Cha). (Chánguina, Chánguene). The original territory of the Chánguenas was the area of the Changuinola River in the Atlantic watershed of the

Talamanca range in northwestern Panama, but in the 18th century they were moved to the Pacific watershed to the areas west and north of David, the current capital of the Chiriquí province.

(10) Dorasque. (Do). During colonial times, the Dorasque were called also with the variant names Torasque, Torresque, and Dorace. Their original territory was the Almirante Bay area in northwestern Panama, including Cristóbal Island. In the 17th century, they were moved to the Pacific slopes of the Talamanca range, to the north and northeast of David, the current capital of the Chiriquí province. Data of this language appeared under the names of Chumulu and Gualaca, two Dorasque towns in Chiriquí.

(11) Guaymí. (Guay). /ŋɔbéɾe/. Ngäbere, Movere (/ŋɔ́be/ 'person, Guaymí Indian'), Penonomeño, Norteño. Bocas del Toro, Chiriquí and Veraguas provinces, Western Panama. Originally the territory extended eastward to the Coclé province and probably even to the inmediately adjacent areas of the Panama province. Due to migration in the middle of the 20th century, it is spoken in Corredores, Golfito and Coto Brus counties in the bordering area of southwestern Costa Rica. A division in three dialects has been proposed: the Inland Bocas del Toro dialect, the Coastal Bocas del Toro dialect, and the Chiriquí dialect.

(12) Bocotá. (Boc). /bugléɾe/. Buglere, Guaymí Sabanero, Murire, Muoi. Bocas del Toro, Veraguas, Chiriquí Provinces, western Panama. There are two dialects: the northern one spoken in Bocas del Toro and northern Veraguas, and the southern one spoken in Chiriquí and southern Veraguas. Bocotás from Chiriquí live intermingled with the Guaymí.

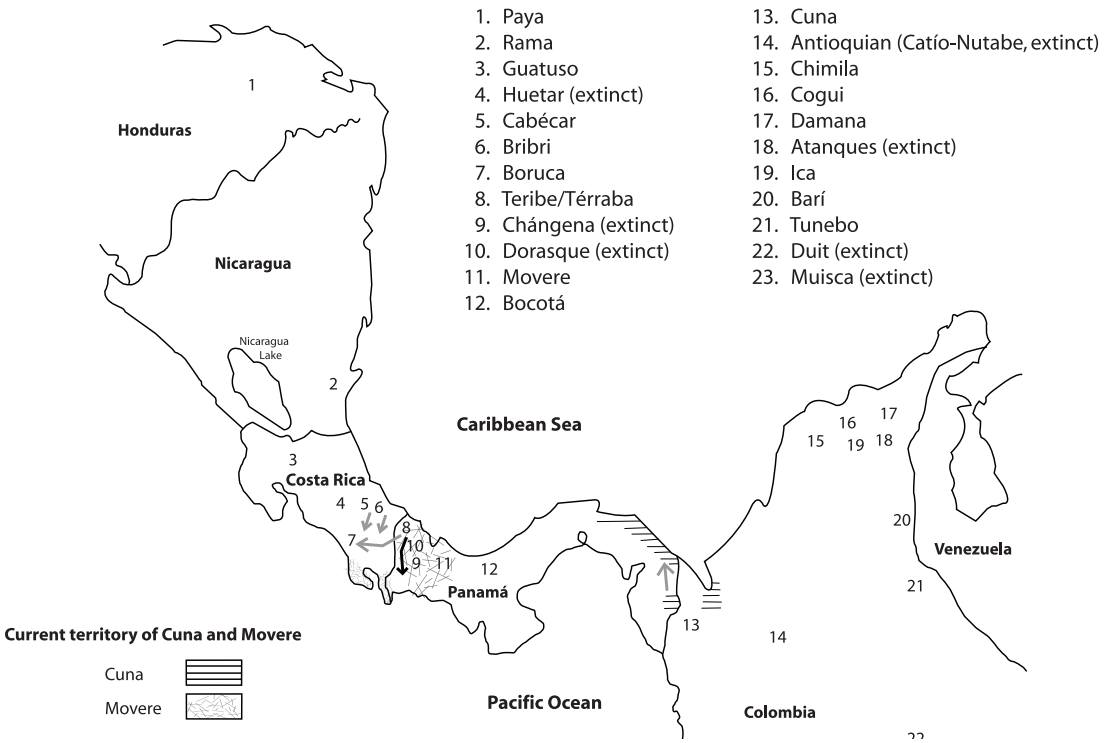
(13) Cuna. (Cu). /tule kaiya/ 'language (mouth) of the people'. Kuna, Tule. The original territory of the language is the area of the Urabá Gulf, in Colombia. From there the language expanded in the 17th century to both the mainland and the islands off the eastern Atlantic coast of Panama, the current Comarca de San Blas or Kunayala. The language has two dialects: San Blas Cuna and Border Cuna, spoken in Arquía and Caimán Nuevo in Colombia and in Paya and Pucuro in southeastern Panama, and San Blas Cuna.

(14) Antioquian. This language was spoken in central and northeastern Department of Antioquia, Colombia, probably until the 18th century. The colonial sources mention two varieties: Catío and Nutabe. The term Catío is currently used for another language belonging to the Chocóan family.

(15) Chimila. (Chi). /ettɛ taːɾa/ 'speech of the indigenous people'. Lowlands to the south of the Fundación River and the central area of Magdalena department, Colombia. Formerly, its territory extended from the southern slopes of the Santa Marta range to the Mompox depression, including most of the today's Magdalena department.

(16) Cogui. (Co). /'kougian/. Kogi (/'kogi/ is the name of the ethnic group), Cágaba, Kággaba, Kőggaba (/'kagaba/ 'people'). Northern and western slopes of the Sierra Nevada de Santa Marta, Colombia.

Map
The Chibchan languages



(17) Damana. (Da). /ˈdɨmɨna/. Guamaca, Sanká, Sanhá, Arsario, Malayo, Marocasero, Wiwa (/ˈwiwa/ is the name of the ethnic group). Southern and eastern slopes of the Sierra Nevada de Santa Marta.

(18) Atanques. (At). Kankuama. This language was spoken in the eastern slopes of the Sierra Nevada de Santa Marta until the first half of the 20th century.

(19) Ica. /ˈikɨ/. Arhuaco, Bíntucua (/ˈbintukwa/ is the name of the ethnic group. Southern slopes of the Sierra Nevada de Santa Marta, Colombia.

(20) Barí. (Ba). Rincón and Quesada (2001–2002) give (in their practical orthography) as the name of the language the word *baría*, apparently 'the speech of the people' (*barí* 'people', *aa* 'speech'; Villamañán 1978: 30). Motilón, Dobocubí, Cunaguasaya. Spoken in the area of the Oro and Catatumbo rivers in the Sierra de Perijá in the Colombian departments of César and Norte de Santander and the Venezuelan state of Zulia.

(21) Tunebo. (Tun). /uw ˈkuwa/ 'the language (tongue) of the people'. Uwa (/'uwa/ is the name of the ethnic group), Tame, Sínsiga, Cobaría. Eastern slopes of the Cordillera Oriental and the Sierra Nevada de Cocuy, departments of Boyacá,

Norte de Santander, Santander, Arauca and Casanare in Colombia, the state of Apure in Venezuela. Four dialects are reported (Gordon 2005): Western, Central, Eastern and Angosturas.

(22) Duit. Chibcha. Probably spoken until the first half of the 18th century in Boyacá department, Colombia.

(23) Muisca. (Mu). /mɨsk kuβun/ 'the language (tongue) of the people'. Mosca, Chibcha. The Muiscas and the Duits spoke different languages but shared the same culture; the word Chibcha was applied to both so it seems to have dessignated their common culture. Spoken in Cundinamarca department, Colombia, probably until the first half of 18th century. Muisca was considered by the Spaniards as one of the four "general languages" of the viceroyship of Nueva Granada.

2. History of the study of the Chibchan languages

The traditional Chibchan cultures have practiced, by means of the memorization of texts and vocabulary lists, the formal teaching of ritual speeches to candidates for some positions, mainly religious specialists (Sherzer 1983: 224–227, Constenla-Umaña 1990a: 17). and have terminology for types of speech acts and events. Nevertheless, there are no indications that any of them has produced descriptions of languages nor developed a metalanguage to refer to grammatical entities such as morpheme, word or phrase classes.

Accordingly, the description of the Chibchan languages began in the 16th century, after the arrival of the Spaniards to their territories. The work on them carried out since then may be divided in the four stages dealt with below.

2.1. First stage: the description of the "general languages" from the point of view of traditional grammar (16th and 17th centuries)

This is the stage in which interest by non-natives in learning the indigenous languages was higher. It was necessary to secure the submission and loyalty of the natives, who were still the largest population and maintained some of their preconquest organizational mechanisms, among which one with special linguistic relevance was what the Spanish called "lenguas generales." These were the languages of ethnic groups that had reached political and military control of large territories, and were used, even outside those territories, as lingua francas in communication among individuals with different native languages. The practical reasons for the interest in the indigenous languages was reinforced during the second half of the 16th century by the particularly favorable attitude of King Phillip II towards America Indian languages, who, among other things, in 1580 ordered that university chairs of the general languages should be established (Triana y Antorveza 1987: 261).

In the case of the Chibchan languages, the place where the favorable policies of Phillip II had greater effect was Colombia. There, in 1582, the chair of Muisca, the general language of the central highlands, was opened and maintained until after 1666 (Triana y Antorveza 1987: 271). This strongly stimulated the study of the language: several grammars and dictionaries were prepared, and many catechisms, confessionaries (treatises with instructions for confession), collections of sermons, and other documents were written in it. Of this abundant production, only four samples have reached us (all of them from the first half of the 17th century, three of them anonimous manuscripts): the grammar and confessionary by Bernardo de Lugo (1619); the manuscript with grammar, vocabulary, catechism and confessionary preserved in the National Colombian Library in Bogotá (published by Uricoechea in 1871, and González de Pérez in 1987), the manuscript with grammar, and confessionary preserved in the Library of the Palace in Madrid (published by Quijano-Otero in 1883, and Lucena-Salmoral in 1964/1965,1966/1969), and the manuscript with vocabulary dated 1612 and preserved also in the Library of the Palace in Madrid (published by Miguel A. Quesada-Pacheco in 1991). Lugo's Muisca grammar was the only work of this stage that got published.

The fact that several of the authors not only spoke Muisca fluently but also taught it formally at a university had important consequences for the quality of their production, as the few examples of it that have reached us allow us to appreciate. The three grammars are quite complete, and the vocabularies are, really, the only true dictionaries of a Chibchan language previous to the 20th century. Likewise, before the 20th century, the Muisca texts such as the catechisms and confessionaries constituted the most abundant samples of discourse in a Chibchan language.

Besides Muisca, two other Chibchan languages from Colombia were studied in this stage. One of them was Duit, the closest relative to Muisca. The only one mentioned as having studied this language was Pedro Pinto (Ortega-Ricaurte 1978: 48), so probably the sample of a catechism in Duit published by Uricoechea (1871: XLI–XLII) belonged to his work, which to this date has not been found. The other language was Tunebo. The following works in or about this language, none of which seems to have been preserved, are mentioned (Ortega-Ricaurte 56–58): *Catecismo y confesionario en lengua tuneba* by Domingo de Molina*, Gramática y vocabulario de la lengua tuneba con doctrina y confesionario de la misma* by Juan Fernández-Pedroche, "various writings in the language" by Martín Niño.

Huetar from Costa Rica, considered also a general language, was learned by Pedro de Betanzos towards 1570, and in 1608 Agustín de Ceballos was mentioned as having written a catechism and a confessionary in it (Lehmann 1920, I: 234–6). No colonial work in or about this language has been found yet.

2.2. Second stage: the increase in the number of languages taken into consideration and the gathering of sample vocabularies (18th century and first half of the 19th century)

At the beginning of the 18th century, the state of affairs was very different from that of a hundred years before. The general languages, those which had been the most important, were receding fully due to the loss of power and prestige of their native speakers, to the greater presence of Spaniards in their original territories, to the increase of culturally non-native population due to intermarriage, to the assimilationist measures adopted during the 17th century, and to the generalization of the Spanish-native language bilingualism resulting from the other factors (Triana y Antorveza 1987: 233). The ultimate consequence was the extinction of Muisca in Colombia and Huetar in Costa Rica in the course of the 18th century.

The increasing presence of non-natives meant the disappearance of the practical reasons that had weighed in favor of the indigenous languages and allowed the adoption of much more resolute attitudes against them. This process culminated with the famous Royal Decree of 1770 in which Charles III expressed his will that in his dominions only Spanish should be spoken and the other languages should be abandoned (Triana y Antorveza 1987: 507–511).

The decline of the general languages had, nevertheless, an interesting effect: no longer able to use them as lingua francas, missionaries had necessarily to learn the local languages, whose study, consequently, increased.

Two grammatical descriptions written in the second half of the 18th century are reported: the "Arte y vocabulario de la lengua tuneba, con doctrina y confesionario" by Manuel del Castillo, and "Gramática y Vocabulario de la Lengua Mosca Chibcha" by Juan Domingo Duquesne de Madrid. The second one had to be made on the bases of 17th century descriptions, because, as pointed out before, Muisca was no longer spoken (Ortega-Ricaurte 1978: 75 and 111). The whereabouts of these manuscripts is currently unknown.

In Costa Rica, in 1753 a chronicle of visits to Térraba and Cabécar localities reports that "in all towns there are interpreters, grammars and vocabularies of the languages" (León Fernández 1907: 496–497). None of these works has yet been found.

In 1738, Francisco de Catarroja wrote the first work on Barí, the "Vocabulario de algunas vozes de la lengua de los indios motilones que avitan en los montes de las provincias de Sta. Marta y Maybo, con la explicación en nuestro idioma castellano." The data of Catarrojas's manuscript, preserved in the Academy of History in Caracas, were included in Villamañán's comparison of Barí vocabulary lists (1978).

In 1787, Russian Empress Catherine II asked King Charles III of Spain for his cooperation to obtain from the languages of Spanish America the list of words used in *Linguarum totius orbis vocabularia comparativa* by P.S. Pallas (1786–7), for the continuation of this work, elaborated and published with her support. The king or-

dered the gathering of the list in as many languages as possible, and the already existing works on them, as well. In the case of the Chibchan languages, this meant the collection and, probably, the salvage for posterity of the following materials: the Muisca grammar from the 17th century published later in 1883 by Quijano-Otero and in the 1960s by Lucena-Salmoral, the 1612 Muisca vocabulary list published in 1991 by Miguel A. Quesada-Pacheco, the Bari lexicon from 1788 *Traducción de voces castellanas en lengua motilona*, prepared by Francisco Alfaro and whose data were included in Villamañán's comparison in 1978, and the Cabécar, Viceíta (Bribri) and Térraba vocabularies included in the manuscript kept in Spain in the Archivo de Indias that was published in 1892 by Fernández-Guardia and Fernández-Ferraz.

The last contributions at this stage to the knowledge of the Chibchan languages were the vocabularies of Bocotá, Dorasque and two Guaymí dialects included in Juan Franco's *Breve noticia ò apuntes de los usos y costumbres de los habitantes del Ystmo de Panamá y de sus Producciones Para la expedicion de las Corvetas al reedor del Mundo,* manuscript in the Bancroft Library, University of California at Berkeley, that according to Alphonse (1956: V) dates from the beginnings of the 19th century.

As is to be expected, the stage we are commenting on continues the preceeding one in some aspects, and in other anticipates the following one. Missionaries kept producing the sets of grammars, vocabularies, catechisms and confessionaries needed for their labor among those they were trying to convert to Catholicism. Regretably, none of the grammars has been found yet, so it is not possible to know whether they are of the same quality as those from the previous stage.

In the second half of the 18th century and the first quarter of the 19th century, the interest in classifying peoples by means of their languages promoted the gathering of lists of a few hundreds of words (444 in the case of the list asked for by Catherine II). Catarroja's Barí vocabulary is a list of about 500 equivalents of Spanish words, not a true dictionary, and does not show any knowledge of the grammatical or phonological structure of the language. The same is true of the lists gathered subsequently known to us: they are full of mistakes and seem to be the work of people who did not speak the languages. Largely, the same thing happened again in the second part of the 19th century and the first part of the 20th century.

2.3. Third stage (second half of the 19th century and first half of the 20th century): The gathering of data on all extant languages and the proposal of genealogic relationships mainly on the basis of the inspection method

From the first two decades of this stage we have only a few rather short vocabularies, among which the largest is that of Cuna by Cullen (published in 1851; 224 items), but after 1870, there is a noticeable change.

The first factor in this change was the afluence of cultivated voyagers from Europe and the United States of America, among which there were naturalists, archaeologists, anthropologists and missionaries interested in the indigenous cultures and languages. These foreigners make up the majority of those who worked on the Chibchan languages in this stage. A second factor was the progress of educational systems and, in general, of the diffusion of academic culture in the area. A third one was the increase of missionary activity of both Catholic and of other Christian faiths.

Three very important signs of progress in this stage are that for the first time (a) data from all spoken Chibchan languages were obtained, (b) samples of verbal art in some of the languages were collected, and (c) a scientific team performed an organized endeavor: the Swedish researchers from the Ethnographic Museum in Göteborg, Erland Nordenskiöld, Nils Holmer and S. Henry Wassén whose works on Cuna grammar, lexicon and verbal art are excellent. Another fact that must be taken into account is that, in contrast with the previous stages, most of what was produced was published.

Two circumstances, nevertheless, determined that most descriptive work, consisting mainly of vocabulary collection, was of poor quality. The first one was that, although the 19th century had witnessed the raise of linguistics as an acknowledged scientific discipline, most of those engaged in the study of Chibchan languages were not linguists and their works rarely reflect the advances that had taken place in the field. Even in the 1940s and 1950s, for example, it is difficult to find studies made in the structuralist framework. The second one was that most studies were the outcome of very brief contacts with the languages, which in only very few cases came to be known in depth. This contributed to the proliferation of errors and missinterpretations.

The following are the main sources of data on the languages still spoken in this third stage: Cogui (Celedón 1886, Preuss 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927), Damana (Celedón 1886, Nils Holmer 1953), Ica (Celedón1892b; Vinalesa 1952), Atanques (Celedón 1892a), Chimila (Isaacs 1884, Celedón 1886, Reichel-Dolmatoff 1947), Tunebo (Rivet 1924b; Rochereau 1926, 1927); Barí (Rivet and Armellada 1950, Wilbert 1961, Kipper 1965), Cuna (e.g Gassó 1908; Puig 1944, 1946; Holmer 1947,1952; Wassén 1937; Holmer and Wassén 1947, 1958, Guaymí (Pinart 1892; Wassén and Holmer 1952, Alphonse 1956), Bocotá (Pinart 1897), Chánguena (Pinart 1890), Dorasque (Pinart 1890), Bribri (Gabb 1875, Thiel 1882, Pittier 1898, Lehmann 1920, Arroyo-Soto 1951), Cabécar (Gabb 1875, Thiel 1882, Lehmann 1920, Arroyo-Soto 1951), Teribe-Térraba (Gabb 1875, Pittier and Gagini 1892, Arroyo-Soto 1951), Boruca (Gabb 1875, Thiel 1882, Pittier 1941, Stone 1949, Arroyo-Soto 1951), Guatuso (Thiel 1882, Lehmann 1920, Porras-Ledesma 1959), Rama (Lehmann 1920, Conzemius 1929) and Paya (Sapper 1899, Duarte in Membreño 1897, Conzemius 1928). In the cases of Cogui, Ica, Cuna, Guaymí, Bribri, Térraba, Guatuso and Rama, some of

the works include grammatical observations, predominantly morphological ones, but only Preuss' studies on Cogui and those of Holmer on Cuna are true grammars. Likewise, these two authors were the ones who produced true dictionaries and important collections of well transcribed and translated samples of verbal art. Holmer's work, alone or in collaboration with Wassén, is the one at this stage with the highest quality in the fields of lexicography and verbal art.

In the descriptive field, there are a series of Muisca grammars, written on the basis of those from the 17th century, by Uricoechea (1871), Adam (1878), Acosta-Ortegón (1938) and Ghisletti (1954). Acosta-Ortegón and Ghisletti are deficient in general, but particularly in their interpretation of the phonology of the language. Uricoechea followed quite closely the manuscript preserved in the National Library in Bogotá (see González de Pérez 1987: 20). In contrast, Adam's grammar is a very competent analysis which makes good use of the advances of linguistics at his time.

Having begun in the 19th century, when interest in diachrony prevailed, this stage gave special importance to the genealogical classification of the Chibchan languages. It was the German archaelogist Max Uhle who, in 1888, proposed the existence of the group, which he named the Chibchan family. Although not a linguist, Uhle had a good understanding of the comparative method of diachronic linguistics, which allowed him to do scientifically adequate work. In spite of the very limited nature of the available materials, he was able to establish a few solid sound correspondences mainly between Muisca and Cogui, and suggested others between these and Ica, Damana, Bribri, Cabécar, Térraba, Boruca, Guaymí and Bocotá. He proposed the family as constituted by those ten languages plus Cuna and Chimila. He concluded that there were three clear subgroups: one constituted by the Arhuakan languages (Cogui, Damana, Ica), another one by Bribri, Cabécar, Térraba and Boruca, and the third one by Guaymí and Bocotá. In addition, he thought that the third and second subgroups had a stronger relationship with each other than with the Aruakan languages, which in turn were more closely related to Muisca. All these subgrouping proposals have proven basically right. This seemed a very promising beginning, but the work done after Uhle during this stage was carried out outside the principles of the comparative method, or even against them, with what has been called the "inspection method" which consists simply in deciding, in an intuitive and subjective manner, whether there is or there is not a genealogical relationship between words of different languages. Thus, the well-founded group discovered by Uhle was transformed into a purely hypothetical construction comprising, in addition to Chibchan and other neighbouring genealogical groups, isolated languages spread from Florida in the United States of America to the north of Chile and Argentina. This is the nature of the classifications including the Chibchan languages by Rivet (1912,1924a), Rivet and Loukotka (1952), Schuller (1919/20), Lehmann (1920), Jijón y Caamaño (1943), Loukotka (1945, 1968), Greenberg (1960, 1987), and Swadesh (1967).

2.4. Fourth stage (from 1960 to the present): The consolidation of the study of the Chibchan languages from a scientific perspective

The main characteristic of this stage is that the study of Chibchan languages stops being the sporadic work of isolated researchers, most of them without linguistic training, and turns into a systematic effort, carried out by groups of linguists, according to contemporary theoretical and methodological points of view. Three of those groups have made, as such, large contributions to Chibchan linguistics. The first is a foreigner one: the Summer Institute of Linguistics, which began its activities in the 1960s. The other two belong to local institutions: the University of Costa Rica and the University of the Andes (Colombia). During the 1960s, in the countries where the Chibchan languages are spoken, there were no organized teams of local linguists carrying out research or teaching activities on the indigenous languages. The local groups appeared in the 1970s and 1980s, mainly as a consequence of the training of qualified staff, when linguistics as a carreer developed in some universities under the stimulus of distinguished foreign linguists.

2.4.1. The Summer Institute of Linguistics (SIL)

The first of those groups is the Summer Institute of Linguistics, which became established in Colombia in 1962 and in Panama in 1969. Its publications on Chibchan languages began in 1972 in Colombia and in 1974 in Panama. The work on Panamanian languages was almost completely interrupted by the expulsion of most of its members from that country at the beginnings of the 1980s. In Costa Rica, SIL has been present in Bribri territory since 1981, but the only outcomes have been pedagogical materials with a very restricted distribution. In Honduras, two members have worked on Paya since the late 1970s, but there have been no publications.

The production by members of SIL includes numerous phonological, morphosyntactic, lexical and discourse analysis studies; samples of discourse in the languages (including many traditional narratives), and four diachronic studies (Wheeler 1972, Levinsohn 1975, Malone 1991 and Frank 1993). They include all the Chibchan languages still spoken in Colombia and Panama, as can be verified from the following examples: Cogui (Stendal 1976; Gawthorne and Hensarling 1984; Hensarling 1991), Ica (Tracy and Tracy 1973, Tracy and Levinsohn 1978; Frank 1990), Damana (Hoppe and Hoppe 1974); Tunebo (E. Headland 1997; P. Headland 1986; Headland and Headland 1976), Chimila (Malone 1991, 1997–1998), Barí (represented only by lexical data included in Wheeler 1972 and in Huber and Reed 1992), Cuna (Baptista and Wallin 1974; Forster 1977), Bocotá (R.D. and M. R. Gunn 1974, R.D. Gunn 1975), Guaymí (M. F. and B. M. Kopesec 1974, M. F. Kopesec 1975; M. Arosemena and F. C. de Arosemena 1980; Payne 1982) and Teribe (Koontz 1978; Koontz and Anderson 1974, 1975; Heinze 1979, Schatz 1985). For comparative purposes, the 200 word lists of four Panamanian

languages included in Gunn (1980) and the 375 word lists of six Colombian languages included in Huber and Reed (1992) constitute very useful contributions.

2.4.2. The Department of Linguistics at the University of Costa Rica and the Research Program on the Languages of Costa Rica and Neighboring Areas

The first of the local teams originated in the University of Costa Rica, where the first program of linguistics in the area was founded in 1972 (by Jack L. Wilson, a linguist from the United States of America), and later, in 1979, the Research Program on the Languages of Costa Rica and Neighboring Areas, which soon became and still is the main source of knowledge on the Chibchan languages (the current name is the Program on Indigenous Languages and it is included in the Institute for Linguistic Research). Its journal, *Estudios de Lingüística Chibcha*, which first appeared in 1982, has published about 90 papers including studies on 14 of the 15 extant Chibchan languages (Barí, Bocotá, Bribri, Cabécar, Chimila, Cogui, Cuna, Guatuso, Ica, Guaymí, Paya, Rama and Teribe/Térraba), on three of the extinct ones (Huetar, Muisca and Boruca), and on such varied subjects as their comparison and subclassification, phonology, morphosyntax, lexicon, ethnosemantics, ethnography of speaking, verbal art, discourse analysis, language death, and baby talk. About 75 percent of these papers were written by participants in the program, who have also extensive contributions on the Chibchan languages in other publications. Some of the most important works in this abundant production are the general descriptions on Cabécar (Margery-Peña 1989) and Guatuso (Constenla-Umaña 1998a); the Boruca (Quesada-Pacheco 1995) and Bribri (Constenla-Umaña 1998b) textbooks; the Bribri (Margery-Peña 1982a), Cabécar (Margery-Peña 1989) and Boruca (Quesada-Pacheco and Rojas-Chaves 1999) dictionaries; a detailed analysis of the language death process in the Térraba variety of Naso (Portilla-Chaves 1986), an areal study including Lower Central America and the neighboring areas (Constenla-Umaña 1991), characterizations of the retention state of the Costa Rican Chibchan languages and the bilingual education activities carried out in the communities where they are spoken (Constenla-Umaña 1988a, Margery-Peña 1990, 2005, Quesada-Pacheco 1998, Rojas-Chaves 1997–8), extense samples of verbal art (Constenla-Umaña and Maroto-Rojas 1979; Margery-Peña and Rodríguez-Atencio 1992; Constenla-Umaña, Castro and Blanco-Rodríguez. 1993; Jara-Murillo 1993 and 1995; Margery-Peña 1994; Quesada-Pacheco 1996), a general characterization of the traditional Chibchan literatures (Constenla-Umaña 1996: 3–56), and diachronic studies (Constenla-Umaña 1981, 1985a, 1985b, 1993, 1995, 1999), Jara-Murillo (1986), and Portilla-Chaves (1989).

2.4.3. The Master's Program in Ethnolinguistics at the University of the Andes, Colombia, and the Colombian Center for Studies on Aboriginal Languages

In 1984, the University of the Andes in Colombia opened the Master's Program in Ethnolinguistics whose founders were three linguists from the French National Council of Scientific Research: Jon Landaburu, Francisco Queixalós, and Elsa Gómez-Imbert. In 1987, this program started the Colombian Center for Studies on Aboriginal Languages (CCELA, its initials in Spanish), which became the main source of descriptions of the Chibchan languages of Colombia. The staff of CCELA has published studies, as shown by the following examples, on Cuna (Llerena-Villalobos 1987, 2000), Damana (e.g., Trillos-Amaya 1989, 2000), Cogui (e.g., Ortiz-Ricaurte 1992, 2000), Ica (Landaburu 1985, 2000), Chimila (Trillos-Amaya 1997; Trillos-Amaya and Perry-Carrasco 1999), Tunebo (Casilimas-Rojas 1999) and Barí (Mogollón-Pérez 2000). These works deal with different aspects of the structure and the current state of those six languages, the extant Chibchan languages of Colombia.

2.4.4. Other important contributions to Chibchan linguistics

The following is a list, with no pretensions of exhaustiveness, of linguists not belonging to the previously mentioned institutions that in the stage under consideration have contributed to the study of the Chibchan languages: Joel Sherzer (e.g. 1983, 1990, 2003), who has provided the most detailed knowledge available on the ethnography of speaking of an American Indian people (the Cuna), Dennis Holt (1986, 1999), author of the only published descriptions of Paya; Colette Grinevald Craig (1986, 1987, 2003), the only linguist working on Rama, author of a dictionary and papers on the state of this language and some aspects of its grammar; María S. González de Pérez (1980, 1987), who has studied the trajectory of the research on Muisca since colonial times and published the dictionary and grammar preserved in the manuscript of the National Library in Bogotá; J. Diego Quesada (e.g. 1996, 1999, 2000), who has written on some issues of Boruca grammar, a general description of Teribe and on the typology of Chibchan languages in general; Ángel López-García (1995), author of a Muisca grammar; Nicholas Ostler (e.g. 1994, 1997–8), who has written several articles on Muisca morphosyntax; Robert T. Jackson, author of a comparative phonology of the Arhuakan languages (1995); and Willem Adelaar (2004), who includes a general characterization of Muisca in the chapter "The Chibcha Sphere" of his excelent book *The Languages of the Andes*, written with the collaboration of Pieter C. Muysken.

3. Diachrony of the Chibchan languages: phonological and grammatical reconstruction of Proto-Chibchan

The following is a list of the applications of the comparative method to Chibchan languages made after Uhle's pioneering work: Shafer (1962), Wheeler (1972), Levinsohn (1975), Constenla-Umaña (1981, 1985b, 1988b, 1989, 1990b, 1991, 1993, 1995, 1999), Holt (1986), Frank (1993) Jackson (1995), Jara-Murillo (1986), Malone (1991). These studies are commented on in Constenla-Umaña (1981: 68–82), (1993: 96–118), and (1995: 23–26).

In Constenla-Umaña's study (1981), the Proto-Chibchan phonemes were reconstructed on the basis of Guatuso, Bribri, Cabécar, Térraba, Boruca and Muisca, but later their reflexes in Rama, Cuna, Dorasque, Guaymí, Bocotá, Tunebo, Cogui, Damana, Ica, Atanques, Paya, Chimila and Barí were given (although in lesser detail for the last three languages, for which the available data were scarce). The same author has subsequently published a series of works (1985b, 1988b, 1989, 1990b, 1991, 1993, 1995, 1999) in which some of the results of his first study are reconsidered in view of new available data, expanded (the case of Duit is analyzed in 1993), and reconstructions in the field of mophosyntax offered.

3.1. Proto-Chibchan phonemes

The phonemic system of Proto-Chibchan, according to this author's current reconstruction, includes the following:

Consonants

	Bilabial	Dental/Alveolar	Velar	Glottal
Voiceless stops	*p	*t	*k	*ʔ
Voiced stops	*b	*d	*g	
Affricate		*ts		
Fricatives		*s		*h
Lateral		*l		
Rhotic		*r		

Vowels

	Front	Central	Back
High	*i		*u
Mid	*e		*o
Low		*a	

Nasal prosody	*˜		
Tones	*[1]	*[2]	*[3]
Stress	*'		

This system differs from the one presented in 1981 following modifications proposed in Constenla-Umaña (1989) and (1991), listed below.

The contrast between two rhotics, a flap and a trill, is no longer reconstructed. The correspondences on which the flap was proposed are ascribed to /*d/.

The contrasts between high lax and mid vowels, and between central vowels are no longer proposed, so the vocalic system is reduced from 8 to 5 units. The correspondences on the basis of which /*ɪ/, /*ʊ/ and /*ə/ were reconstructed then are now ascribed, respectively, to /*e/, /*o/ and /*a/.

Three tonemes instead of two are recognized.

Reconstruction indicates that Proto-Chibchan syllables were of the following types: V, VC, CV, CVC. No consonant clusters are reconstructed.

3.2. Proto-Chibchan: grammatical reconstruction

The grammatical reconstruction of Proto-Chibchan has received less attention than phonological reconstruction. Both Constenla-Umaña (1981) and Holt (1986) include a few affixes in their lists of reconstructed Proto-Chibchan morphemes and words, but the subject as such has been dealt with only in Constenla-Umaña's works from 1988b, 1989 (pp. 19–33) and 1991(pp. 35–42).

3.2.1. Derivational morphology

Proto-Chibchan derivational morphology is characterized by the frequent use of a set of basically meaningless stem formatives which include at least the following: /*-a/, /*-e/, /*-i/, /*-o/, /*-u/, /*-ʔ/, / ~/, /-*ke/, /*-te/, /*-ka/, and /*-ba/. In the comparison among the languages, it is frequent to find differences because one language has a bare root while others use different formatives in compared cognates, and still others may use a sequence of two formatives, a fact that sometimes causes some difficulties for reconstruction. The following are three examples:

(a) For the meaning 'salt, sea', one finds stems formed with sequences of root /*dahg-/ plus formative /*-e/ in three Central American languages (Pa /tàːkè/, Bri /dadʒɨ́/, Cab /dadʒì/), and with the formative /*-u/ in four Colombian languages (Co /nəkku/, Da /nɨngu/, Ica /ˈnəggɨ/, and, apparently, At *nöngüi*), and, finally, with a sequence of formatives /*-u/ and /*-a/ in two more Colombian languages (Mu /nɨgua/, Tun /ˈɾauwa/).

(b) For the meaning 'tree, stick', one finds stems formed by the reflex of the bare root /*kaˈd/ (Bri /kál/, Te /kʰóɾ/, Da /kɨn/, Chi /kaː/) or by the reflex of a sequence of the root plus formative /*-a/ (Gua /koːɾa/ 'tree, stick, bone'), or formative /*-i/ (Guay /kɾi/, Boc /gli/), or a sequence of formative/*-u/ and derivational suffix /*-kua/ (Tun /ˈkaɾukwa/) or with a combination of formatives /*-a/ and /*-˜/ (Bor /kɾáŋ/). On the other hand, the combination of the root plus

formative /*-a/ conveys the meaning 'trunk (of a tree)' in Bribri and Cabécar, and the meaning 'bone' in Dorasque, Guaymí, and Bocotá.

(c) In Dorasque and Cuna, 'mouth' is conveyed by a sequence of the reflexes of root /kah-/ and formative/-ka/: kagá, /kakka/, respectively. But Bocotá /ka/ has the root as its only component and in Chimila /kakkwa/, the reflex of derivative suffix /*-kua/ occurs instead of that of formative /*-ka/.

This type of phenomena can be found in the Chibchan languages nowadays. Constructions of the same root plus different formatives are found conveying the same meanings or very similar ones. For example, in Cuna, according to Holmer (1952) /nua/, /nue/ and /nui/ all equally mean 'good, well', although the second form is the most frequent. In a similar manner, in the case of Guatuso /pueː/ 'well' and /puiː/ 'well, thoroughly', the first form is used in general while the second one occurs particularly with certain verbs such as /ɸaliː / 'to examine'. In Bribri a sequence of the interrogative root /bí-/ plus a suffix /-k/, /bík/, means 'how much (referred to round things)', but a sequence of the same root, the nasal formative and the same suffix, /bĩ́k/, means 'when'. In addition, these types of forms are also found as dialectal variants: in Cabécar 'iguana' is /buà/ (the bare root) for some speakers, but for others it is /buã̀/ (the root plus the nasal formative).

3.2.2. Inflectional morphology

The inflectional affixes that have been reconstructed are all verbal. It is quite possible that Proto-Chibchan did not have noun inflection. As a matter of fact, in many Chibchan languages, noun inflection is restricted to pluralization of nouns with the feature [+human].

It is possible to reconstruct a suffix for each member of the basic aspectual contrast imperfective-perfective. 'Imperfective' was conveyed by suffix /*-e^{3}/: Ra /-i/, Bri /-é/, Cab /-é/, Te /-í/, Guay /-e/, Boc /-e/, Cu /-e/ 'imperfective'; Chi /-e-/ 'prospective'; Guat /-e/ 'realis'. The mark of perfective was the suffix /*-o^{2}/: Ra /-u/, Boc /-o/, Chi /-o-/, Bri /-ô/, Mu /-o/ 'perfective' (preserved only in a few verbs in Bribri and Muisca), Ba /-õ/ 'past' (the Cabécar /-ó-/ occurring in the 'remotospective perfective' in some verbs is probably also a reflex).

A nonfinite form /*-ka/ can be reconstructed on the basis of Guat /-ka/ 'infinitive', Bor and Mu /-ka/ 'past participle', Te/-gà/, Guay /-kɔ/, Boc/-gã/, Co and At /-ka/, Da, and Ica /-ga/ 'present participle'.

Middle voice /*-d-/ is reconstructable from Guat /-te/, Bri /-d-/, Cab /-d-/, Te /-ɾ/ 'middle voice', Cu /-le/ 'passive', Mu /-ne/ 'passive resultative'.

An imperative suffix /*-u/ can be postulated on the basis of Pa /-ũ/, Mu, Da, and Ica /-u/, Co *-ua* (singular)/*-ui* (plural), and Tun /-wi/ (Holt 1986: 134).

A reflexive (sometimes just intransitivizing) prefix /*aL-/ can be reconstructed from Cu /a-/ (cf. /annukke/ 'wash oneself', /enukke/ 'wash'), Co /a-/ (/akuaʃi/ 'kill oneself', /guaʃi/ 'kill'), Ra /al-/ (/altkwai/ 'hide (reflexive)', /tkwai/ 'hide'), Pa /a-/

(/apàsk/ ‘leave’, /pàsk/ ‘take out’). Morphophonemic changes in Cuna and Cogui indicate the former presence of a consonant at the end of the prefix.

3.2.3. Syntactic reconstruction

Because they are characteristics shared by the Chibchan languages on which there is enough information (for some of the extinct ones like Dorasque, Chánguena, Atanques and Duit there is not), the following orders can be attributed to their common ancestor: SOV, Noun-Adjective, Noun-Numeral (at least in indefinite noun phrases), Noun-Postposition (several postpositions have been reconstructed), and Genitive-Noun.

As to the case system of Proto-Chibchan, Tun /ta~t/, Bri /tù/, Cab /tì/ and Guat /ti/ suggest the possibility of reconstructing an ergative postposition. The /t/-/t/-/t/-/t/ correspondence is obvious and regular, and the lack of coincidence between the vowels of Tunebo and Bribri (< /*a/) with those of Cabécar and Guatuso (< /*e/) could be a case of the alternation of vocalic formatives dealt with in 3.2.1.

Proto-Chibchan had a series of inalienably possesed nouns, that in this article will be called class words, like /*kada[3]/ ‘tree, stick, bone, long and cylindrical thing’ and /*kua[2]/ ‘seed, spherical thing’ that very frequently formed with other nouns genitive phrases with fixed lexical value in which their semantic contribution was related to the shape or consistency of the referent. Guatuso preserves this situation and, for example, concepts such as ‘eyelid’, ‘eyelash’, ‘eyebrows ridge’, ‘eyebrows’ are conveyed, respectively, by the following phrases: /ɸiɬiː leŋ/, /ɸiɬiː iːɬa/, /ɸiɬiː koːɾa/, /ɸiɬiː koːɾa iːɬa/. The initial word in all these phrases is /ɸiɬiː/ ‘eye’; /leŋ/ is ‘skin, leather, bark, natural wrapping of anything’, /iːɬa/ ‘hair, feather’, /koːɾa/ (</*kada[3]/) ‘tree, stick, bone’. Phrases of this type became compound words in some languages. This is the case of Rama, in which /kiːŋkat/ ‘neck’ is a compound of /kiːŋ/ ‘head’ and /kat/ (<*/ka[1]d/)‘tree, stick’. Later in most languages the second parts turned into suffixes and, in some cases, they even stopped being used as free forms, as in Boruca, where /*kada[3]/ and /*kua[2]/ have survived only as the derivational suffixes /-kɾa/ and /-kua/ (in the case of the first etymon, a stem derived from it by addition of the nasal formative, /kɾáŋ/, conveys the meaning ‘tree, stick’). The suffixes resulting from this process were extended to adjectives in some languages.

There was still another development from class words: numeral classifier affixes – in some languages prefixes, in others suffixes – developed from them. Probably this arose from the use of class words such as /*kada[3]/, /*kua[2]/, and /ka[3]/ ‘leaf, feather, flat thing’ as substitutes for the phrases in which they participated, so that instead of ‘two his-upper-extremity’s cylindric-things’ i.e. ‘his two arms’ (as in Guatuso /pauŋka ikukiː koːɾa/) ‘his two cylindric-things’ could be said. If in Proto-Chibchan the placement of numerals was conditioned as, for example, in Ica (Frank 1990: 31), by the definite or indefinite character of the noun phrases, the

languages with suffixed classifiers would have developed them from definite phrases with preposed numerals ('two cylindrical-things'), and those with prefixed classifiers from indefinite phrases ('cylindrical-things two').

Paya, Rama, Guatuso, Chimila, Cogui, Damana, Ica, Muisca, and Barí have person prefixes that started out in etyma that have also developed into personal pronouns. These prefixes are: Pa /ta-/, Ra /n-~ni-/ (possessor, subject), /na-/ (direct object), Guat /na-/, Chi /na-/, Co /na-~-la-/, Da /ɲi-/, Ica /nə-/, Ba /da-/ 'first person'; Pa /pi-/, Ra /m-~mi-/ (possessor, subject), /ma-/ (direct object), Guat /mi-/, Chi /ma-/, Co /mi-~-bi-/, Da /mi-/, Ica /mi-/, Mu /m-/ (singular), /mi-/ (plural), Ba /ba-/ (singular), /bi-/(plural) 'second person'; Pa /a-/, Ra /i-~j-/ (possessor, subject), /ja-/ (direct object), Guat /i/, Co /a-/(direct object), Da /a-/(direct object), Ba /a-/ (direct object, singular), /i-/ (direct object plural, indirect object) 'third person'. The main functions of these prefixes are to mark the person of (a) the possessor in the possessed noun (Pa, Ra, Guat, Chi, Co, Ica, Mu), (b) the patient of a transitive verb (Pa, Ra, Guat, Co, Da, Ica, Ba), (c) the agent or patient of an intransitive verb (Ra, Guat, Mu), and (d) the agent of a transitive verb (Ra, Mu). Except for Rama, the etymon of the first person prefixes is /*da/ or (with addition of the nasal formative) /*dã/, which is behind the independent pronouns such as Pa /tàs/, Ra /naːs/, Boc /tʃa/, Co /nas/, Da /ɾa/, Chi /naːɾi/, Ba /nãĩ/. The etymon of Rama /ni-/ is /*dĩ/, derived by addition of the nasal formative from /di/ which gave origin to Guaymí /ni/ 'we (inclusive)', and Boruca / dìʔ/ 'our, us' (/dìʔ ɾóxk/ 'we'). Except for Chimila and the singular forms of Muisca and Barí, the etymon of the second person prefixes is /bi-/ or (with addition of the nasal formative) /*bĩ-/, which gave independent pronouns such as Bor /bìʔ/ 'your' (/bìʔ ɾóxk/ 'you (plural)'), Ica /'miwi/, Mu /mie/, and Ba /biɲi/. The etymon of Chimila /ma-/ is /*ba/, which gave the independent second person singular pronouns: Pa /pà/, Ra /maː/, Guat /poː/, Bor /bá/, Cab /bá/, Te /ɸà/, etc. It also produced Guat /ma-/ 'first person plural inclusive'. The etyma of the third person prefixes are /*ha/ and /*hi/; the first one seems to have given only one independent personal pronoun: Ica /a/ (in addition it gave the Guatuso relative pronoun /oː/, and the root of the Muisca demonstrative /ɨsɨ/ 'that'); the second one has given several (in sequence with various formatives): Ra /j-aiŋ/, Bri /i-ěʔ/, Cab /hi-é/, Bor /ì-ʔ/, Cu /i-tti/. The /*da/-/*di/, /*ba/-/*bi/ and /*ha/-/*hi/ alternations are another case of the use of different vocalic formatives (see 3.2.1.) with the same roots /*d-/, /*b-/ and /*h-/. In view of the absence of person prefixes in several languages (Bor, Bri, Cab, Te, Guay, Boc, Cu, Tun), the best hypothesis about their development is that Proto-Chibchan had an optional alternation between independent and proclitic forms of the personal pronouns similar to the one occurring in Bribri (cf. Constenla-Umaña 1998b: 24–25), and that the proclitic forms gave rise to the prefixes.

4. Diachrony of the Chibchan languages

4.1. Subgrouping

The following sections will present a summary of the comparative and lexicostatistical evidence on which the subgrouping of the Chibchan languages proposed in 4.2. is based.

4.1.1. Phonological, grammatical and lexical evidence provided by the application of the comparative method

The application of the comparative method suggests that the majority of languages cluster in three major groups: Votic (Rama-Guatuso), Isthmian (Boruca, Bribri, Cabécar, Teribe/Térraba, Guaymí, Bocotá), and Magdalenic (Chimila, Cogui, Damana, Atanques, Ica, Muisca, Tunebo, Barí).

4.1.1.1. Evidence for the Votic Subgroup

4.1.1.1.1. Phonological evidence

The contrast between voiced and voiceless stops was originally eliminated in Rama and Guatuso through partial merger of the two with each other and with other proto-consonants.

The pattern of split and merger of the bilabial stops is exactly the same. /*b/ > /m/ before nasal vowels (this is limited to monosyllabic morphemes in Guatuso). In contexts where this does not happen, /*p/ and /*b/ merge in morpheme-initial position to /p/ in both languages, and in internal intervocalic position to /b/ in Rama and /ɸ/ in Guatuso (which is pronounced [β] very frequently in this position): Ra /puksak/, Guat /pauŋka/, Bor /búʔk/, Bri /bôl/, Cab /ból/ ‘two’ (/-l/ ‘human (classifier)’ in Bribri and Cabécar); Ra /puŋkit/, Cab /pű́/, Bri /pû́/ ‘bird of prey’; Guat /puː/ ‘egg’, Bri /pû/ ‘sprout’, /pûpù/ ‘suckling’; Ra /abiːs/, Cab /pîs/, Bri /apí/ ‘pumpkin’; Ra /ŋeɾba/, Guat /eɾeːɸa/, Bri /uídòb/, Te /uéɾbà/ ‘pataste (*Theobroma bicolor,* a species of cacao)’; Guat /kuːɸi/, Cab /kipô/, Bri /kipó/ ‘hammock’. The pattern is characteristic of the two languages, but not the merger; in fact, the original contrast between /*p/ and /*b/ was preserved only in three languages (completely in Bribri and Cabécar; partially – intervocalically – in Teribe/Térraba).

Except for the nasalization of /*d/ before nasal vowels (limited to monosyllabic morphemes in Guatuso), /*t/ and /*d/ merge in morpheme initial position into /t/ before non-front vowels (in Guatuso the merger happens also before front vowels). This merger takes place only in these two languages. Ra /tukwa/; Bri /tŭʔ/; Cab /tú/ ‘thigh, leg’; Guat /tuː kuːɾu/ ‘papa montera (a type of tuber)’, Bri /tŭʔ/, Te /tʰú/; Do *tu* ‘yam’; Ra /tuː/, Guat /tuaː/, Cab /duwà/, Bri /duwá/, Bor /duà/, Te /duò/, Do *duá*, Boc /tʃwa/, Co *noai*, Da /duambiʒi/, Ba /doː/ ‘tobacco’.

/*k/ and /*g/ merge in morpheme-initial position. Dorasque and Chánguena are the only other languages which have this merger. Pa /úː/, Ra /kuŋ/, Guat /kuː/, Bor /kuá/, Bri /kṹ/, Cab /kű́/, Te /kʰúŋ/, Guay /kṹ/, Boc /kṹ/, Do *kū́*, Cu /kuː/, Chi /kuː/, Co *kuí* (b), Ica /ku/, Mu /kue/, Tun /ˈkuɾia/, Ba /ku/ ‘louse’; Ra /kuː/, Guat /kuː/, Bor /dʒúʔ/, Cu /su-/, Mu /gu-/, Co /gu-/ ‘take’.

/*h/ was spontaneously nasalized into /ŋ/ in both languages in morpheme-initial stressed syllables. Later in Guatuso this /ŋ/ was lost from those items that can occur preceded by a pause except in the case of reduplicated morphemes: Ra /ŋaukŋauk/, Guat /ŋoːkoŋoːko/ (cf. Guay /hoko/, Cab /hók/) ‘spider’; Ra /ŋuː/ ‘house’, Guat /ŋuːti/ ‘at X’s house (postposition)’, /uː/ ‘house (noun)’ (cf. Cab /hù/, Guay /hu/).

4.1.1.1.2. Grammatical evidence

Rama and Guatuso developed personal pronoun prefixes from the same etyma (see 3.2.3.). This innovation is shared by most Colombian Chibchan languages and Paya.

Rama and Guatuso share a participial suffix: /*-ibã/> Ra /-ima/ ‘past participle’, as in /skwima/ ‘washed’; Guat /-iːɸa/ ‘present participle’, as in /poɾeːteiːɸa/ ‘singer’, and an adjective suffix (/*-ba/> Ra /-ba/ ‘adjective formative with intensifying value in some cases’, Guat /-ɸa/ ‘intensifyer’. None of the two has been found to occur in any other Chibchan language.

4.1.1.2. Evidence for the Isthmian subgroup

4.1.1.2.1. Phonological evidence

Bribri, Cabécar, Teribe/Térraba, Boruca, Guaymí, and Bocotá show a tendency to lose vowels in the non-final syllables of the morphemes, which does not occur anywhere else, as can be seen in the following example: Ra /aːp/ ‘body’, Cab /pà/ ‘body’, Bri /apá~pá/, Bor *ba-kua* ‘body’, Te /pò-/ ‘external part (prefix)’, Boc /ba/ ‘figure, sculpture’, Guay /bɔ/ ‘appearance’, Cu /apa/ ‘body’, Co *aba* ‘sculpture’, Mu /ɨba/ ‘body’. In the other Chibchan languages, vowel loss, when it happens, takes place in morpheme-final syllables.

The same languages also share the metathesis of /*u/ and /*k/ in sequence /*uhkV/ as in /*uhka[3]/‘skin, bark’ > Bri /axkuʊ́/, Cab /hkuʊ́/, Bor /kuáʔs/, Te /ˈkuótà/, Guay /kuata/, Bo /kuaɾa/ (compare Ra /uuk/, Do *ugá*, Cu /ukka/ and Mu /huka/). Except for Guaymí, this change affected also /*ukV/ sequences.

/*e/ was raised in most environments in Bribri, Cabécar, Teribe/Térraba, Boruca, and Guaymí. Some of the environments which prevented raising coincide in all these languages (for example before /*ʔ/), some do not (e.g. after /*u/ is particular to Guaymí). In the environments which did not prevent raising, there were

two different outcomes: raising to a high lax vowel which eventually gave rise to a new phoneme /ɪ/ or raising to a high tense vowel /i/ resulting in merger with the principal reflex of /*i/. Bribri presents only the first outcome, Boruca and Guaymí present only the second one, and Bocotá, Cabécar and Teribe/Térraba both of them. /*heʔ/ 'that' > Bri /ɛ̌ʔ/, Cab /hé/, Te /è/, Boc /e/, Mu /a-/ (in /asɨ/), Tun /'e-/ (in /'eja/) 'that'; /*ge[2]/ 'fire'> Bri /dʒɪ́-/ (in /dʒɪ́uù/ 'coal'), Bor /dʒí/, Boc /hi/, Guay /ŋi/, Do *ké*, Chi *n:ge* 'fire', Cu /se-/ (in /sekal/ 'match'), Co /gie/, Ica /gei/, Da /ge/, At *guié* 'fire', Mu /ɣa-/ (in /ɣata/ 'fire', /ɣaspkua/ 'live coal'), Tun /e/ (in /ebaˈra/ 'stick for making fire'), Ba *ee* 'fire'.

/*b/ was lost between /*u/ and a vowel in Bribri, Cabécar, Teribe/Térraba and Bocotá (and also in Paya, Chimila and Barí): /*uba/> Pa /wà /, Ra /up/, Bri /uɔ́-/ (in /uɔ́baɭà/), Cab /uɔ́-/ (in /uɔ́baɭà/), Te /bò-/ (in /bòkuò/), Boc /gwa/ (in /gwagwa/), Chi /wa:-/ (in /waːkwa/), Co /'uba/, Ica /'umɨ/, Da /uma/, Mu /upkua/, Tun /'uba/, Ba /oː/ 'eye'.

/*g/ was palatalized before all vowels in Boruca, and before non-high vowels in Bribri, Cabécar, and Teribe/Térraba. In these three languages before the high vowels the outcome was /h/, which later was lost in Bribri and Teribe/Térraba: Cab /huɭà/, Bri /uɭá/, Bor /dʒuréʔ/, Te /uɭórbò/, Do *kulá*, Cu /suɾkana/, Co /'gula/, Da /'gula/, Ica /'gunnɨ/. This type of fronting of /*g/, not conditioned by front vowels, also happened in Cuna, where /*g/ became /s/ before all vowels.

/*o/ > /o/ when nasalized or preceded by an alveolar proto-consonant in Bribri, Cabécar, and Teribe/Térraba (also with the first tone and preceded by /*h/ in Cabécar). Elsewhere it was raised into /ʊ/ in the three languages. Cab /bõ̀/, Bri /bɔ̃́/, Bor /bók/, Te /ɸóŋ/, Guay /mɯta/, Boc /boga/, Do *bókála*, Cu /mola/, Chi /monse/, Co /'maui/, Ica /'məɲɨ/, Da /moɲa/, Mu /βaoa/, Tun /bowaˈra/ 'cloud'; Guat /poloːki/, Cab /baɭò/, Bri /baɭó/, Bor *bru-krá*, Te /ɸɭòɾó/ 'a tree (*Erythrina sp.*)'; Cab /dʒʊ-/, Bri /dʒʊ-/, Co *gau-*, Da /'gaw-/, Ica /'gaw-/ 'make'.

In morpheme internal position after a vowel, /*d/ > /ɭ/ in Bribri and Cabécar, and /ɾ/ in Boruca, except after the vowel /*e/, where the outcomes are Bri, Cab /d/, Bor /ʃ/: /*te[3]d/: Pa /sèra/; Bri /tédʊ̀ɭ/, Bor /téʃàŋ/, Te /-téɾ/, Guay /-ti/, Cu /neɾkwa/; Da *tainnúa,* Mu /ta/; Tun /'teraja/ 'six'.

The most frequent outcomes of /*a/ in Guaymí and Bocotá are /ɔ/ and /a/, respectively: Pa /pa/, Guat /poː/, Cab /bá/, Te /ɸà/, Bor /bá/, Guay /mɔ/, Boc /ba/, Cu /pe/, Chi /ma-/ 'second person prefix', Co /ma/, Da /ma/, Ika /ma/, Mu /mɨe/, Tun /'baʔa/ 'you (singular). When /*a/ is preceded by an alveolar consonant and followed by /ʔ/, the outcomes are Guay /a/ and Boc /e/. This split is shared by Teribe/Térraba, but in this language the least frequent outcome, /a/, occurs always before /ʔ/, even when the preceeding consonant is not alveolar. /*ka[2]da[2]ʔ/: Pa /àːra/ 'fishing net', Mu /kɨnɨ/ 'net', Cab /kaɭáʔ/, Bri /kaɭɛ̌ʔ/, Bor /kɾáʔ/, Te /kʰɭá/, Guay /kra/, Boc /gde/ 'net bag'.

The most frequent outcome of /*a/ in Cabécar and Bribri is /a/, but the outcome in both languages if oral and with the third tone is /ʊ/ (there is merger with the most

frequent outcome of /*o/): /*ka³/: Pa /á/, Bri /kó/, Cab /kó/, Bor /ká/, Guay /kɔ/, Cu /kaː/, Mu /kɨe/, Tun /'kaja/ 'leaf'.

4.1.1.2.2. Grammatical evidence

An innovation shared by Bribri, Cabécar, Guaymí, and Bocotá is the development of directional suffixes in the verbs (originated from nouns, postpositions and even verbs) with a function which is similar to that of the English prepositions in, for example, *stand up* or *sit down*. An example is Bri /-kã̀/, Cab /-kã̀/, Guay /-kɔ/ and Boc /-ga/ 'rising movement' as in Bri /ʃkôkkã̀/ 'go up, climb' (cf. /ʃkôk/ 'walk'), Guay /hɯbẽkɔ/ 'jump in the water (a fish)' (cf. /hɯbẽ/ 'swim') and Boc /hogega/ 'fly, go up' (cf. /hoge/ 'go').

Bribri and Bocotá share two characteristic iterative suffixes: Bri /-baɭɛ̀/, /-dɛ̀/ (both used for iteration, but with different frequency in the dialects of the language), Boc /-mni/ 'iteration' /-ni/ 'to resume an incomplete action'. The second one is also shared by Cabécar: /-dɛ̀/. The first of these two suffixes occurs also in Cuna: /-pali/.

Bribri, Cabécar, Boruca, Guaymí, and Bocotá share an imperative form in /*-a/: Bri /-ô/, Cab /-ò/ (the tones are problematic because in these languages /*a/ > /ʊ/ with the third tone), Bor /-á/, Guay, Boc /-a/. In Guaymí this is the negative imperative, in Bocotá, the imperative is used in transitive clauses with no deletion of the agent.

Guaymí, Bocotá, and Cuna share the use of imperfective /*-e³/ (3.2.2.) as imperative. In Cuna it is the general imperative. In the other two languages, it is used in the cases in which the/-a/ imperative does not occur.

Bribri, Cabécar, Guaymí, and Bocotá share an imperfective form /*-a³/ which contrasts with the /*-e³/ form: Bri, Cab /-ó/, Guay, Boc /-a/. In the first two languages it is used with intransitive verbs; in the other two, in the middle voice.

Guaymí, Bocotá, Teribe/Térraba, and Cuna developed numeral classifier prefixes from the etyma /*kada³/ 'stick', /*kua²/ 'seed' and /*ka³/ 'leaf' (3.2.3.). This innovation is shared also by Dorasque and Chimila.

Bribri, Cabécar, Teribe/Térraba, Guaymí, and Bocotá use the order noun-demonstrative, while the other Chibchan languages have the opposite order. As at least one demonstrative, /*heʔ/ 'that' (> Bri /ĕʔ/, Cab /hé/, Te /è/, Boc /e/) has reflexes in the majority of these languages, this is not merely a typological feature, but one that can be reconstructed for their immediate ancestor.

4.1.1.2.3. Degrees of relationship according to the comparative evidence

Bribri and Cabécar are the languages sharing a greatest number of the discussed traits. Bocotá shares the highest number of them with Guaymí, and then with Bribri and Cabécar,. Teribe/Térraba and Boruca have also their strongest relationship

with Bribri and Cabécar, but are much less closely related with each other and with Guaymí and Bocotá. Cuna shows a very weak relationship with all the other languages, but it is more related to Guaymí and Bocotá.

4.1.1.3. Evidence for the subgrouping of the languages spoken to the east of Magdalena River in Colombia

4.1.1.3.1. Phonological evidence

Muisca, Chimila, Cogui, Damana, Atanques, and Ica nasalize /*b/ before /*a/. Except for Muisca, this spontaneous nasalization occurs also before the other non-high proto-vowels: /*e/ and /*o/. In Cogui these changes are restricted to word-initial position, where /*b/ is also nasalized before the high vowels. See cognate set 'you' in 4.1.1.2.1. and Guat /pakeːkiriː/, Bor /báxkàŋ/, Cab /pki-/, Te /-bkíŋ/, Guay /–bɔkɔ/, Boc /–baga/, Do *-paka*, Cu /pakke/, Co /maˈkeua/, Ica /maʔˈkeiwa/, Da /makegwa/, At *makéua*, Mu /mɨhɨka/, Tun /baˈkaja/ 'four'.

Muisca, Chimila, Cogui, and Ica nasalize /*d/ before /*a/. Except for Muisca, this spontaneous nasalization occurs before the other non-high proto-vowels, /*e/ and /*o/. In Cogui these changes are restricted to word-initial position, where /*d/ is also nasalized before the high vowels. Guat /taɸaː/, Cab /dabɑ̃/, Bri /dabṹ/, Te /dobóŋ/, Co /nabi/, Ba /daːba/ 'feline', Mu /nɨmɨ/ 'wild cat'; Pa /tàs/, Ra /naːs/, Guat /ton/, Boc /tʃa/, Chi /naːri/, Co /nas/, Da /ɾa/, At *ranji* 'my', Ica /nən/ 'I'.

Chimila, Damana, Atanques, Ica, Tunebo, and Barí insert /w/ after an /*uhk/ sequence: /*suhk-/ 'wash' (cf. Pa /suk-/, Bor /tuxk/, Cu /enukk-/, Chi /tukkw-/, Da /atukkw-/, Ica /aʔtʃukkw-/, Tun /sukw-/, and Ba /dukw-/.

Muisca, Cogui, Damana, Atanques, and Ica front /*g/ before /*i/: /*gɪ̃́/ 'worm' > Co /ʒi/, Da /dʒi/, Ica /zi/, Mu /tsina/ (Cab /hɪ̃́/, Bri /ĩ́/, Do *kisi*, Guay /ŋĩ́/).

Morpheme-final /*d/ is lost in Chimila, Muisca, and Barí in coda position: Chi /kaː/, Mu /kɨe/, Ba /kãː/ (Ra /kaːt/, Bri /kál/, Da /kɨn/) 'tree'.

Muisca, Tunebo, Damana, and Atanques merge /*ts/ and /*s/ before/*u/: /*tsuʔ/ 'teats'> Da /ˈtudu/, At *túːtu*, Mu /tʲue/, Tun /suˈta/ (Bri /tsŭʔ/, /*suhkè/ 'mouse' > At *túhkua*, Mu /tʲuhuka/ (Bri /skuɪ́/, Guay /tukweli/, Do *sogé*); /*suhk-/ 'wash'> Da /atukkw-/, Tu /sukw-/ (Bri /sûk/, Bor /tuhk-/, Cu /enukk-/).

Morpheme-initial /*s/ before /*u/ became /t/ in Chimila, Cogui, Ica, and Damana, and merged with the outcome of /*t/ in other environments. /*s/ in this position merged with /*t/ also in Cuna, Dorasque, and Guaymí, and, partially, in Boruca. Compare 'mouse' and 'wash' from the previous paragraph with /*toka/ 'gourd cup'> Co *touka*, Da *toga*, Ica /tʃokwɨ/ (Cab /tkɑ̃́/, Tun /toka/, Do *sok*, Cu /noka/).

Morpheme-initial /*t/ is voiced before /*u/ in Chimila, Cogui, Damana, and Atanques: /*tuʔ/ 'thigh' > Chi /dúkkua/, Co *nugakala*, Da /dukɨkɨna/, At *dukökána* (Bri /tŭʔ/; Cab /tú/). This caused a merger with /*d/ in that position at least in two of these languages /*duhke/ 'tail' > Co /ˈnugi/, Da /duʃkɨna/ (Do *dug*).

The loss of morpheme-initial /*g/ has been observed before non-high vowels in Tunebo and Barí: /*ge¹/ 'firewood' > Tun /e-baˈɾa/ 'stick for making fire', Ba *ee* (cf. Bri /dʒíuù/, Do *ke*, damana /ge/); /*gaba¹/ 'child' > Ba *aba* (cf. Cab /dʒabà/, Guay /ŋɔbɔ/, Da *gáma*); /*goˈka³/ 'fire' > Tun /oka/ 'fire', Ba *oka* 'furnace' (cf. Te /iùk/, Cab /dʒʊkú/, Co *gaukséi*); /*gua-/ > Tun /wak-/ 'kill' (cf. Guat /kuaː/, Mu /ɣua-/).

Muisca and Tunebo share the lowering of /*e/ to /a/; in morpheme-final position in the second language, in all environments in the first one: Cu /pakke/, Mu /mɨhɨka/, Tun /baˈkaja/ 'four'.

/*a/ is raised when followed by an alveolar consonant in Damana, Atanques, and Ica: Da /tɨna/, At *ahtöna,* Ica /aʔˈtʃəna/ 'old' (Ra /taːɾa/ 'old', Do *taral* 'old person').

/*u/ is lowered to /o/ before /*ʔ/ in Damana, Ica, and Barí: Da /kongɨɾa/, Ica /koˈɾiʔgəni/, Ba /kobẽː/, Bri /kŭʔ/, Mu /pkua/ 'tongue'.

4.1.1.3.2. Grammatical evidence

Chimila, Cogui, Damana, Ica, Muisca, and Barí developed personal pronoun prefixes from the same etyma (see 3.2.3.). This innovation is shared by Paya, Rama, and Guatuso.

Cogui, Damana, Ica, Muisca, and Tunebo have imperative suffixes originated from an etymon /*-u/: Co *-ua* 'singular' and *-ui* 'plural', Da /-u/, Ica /-u/, Mu /-u/, Tun /-wi/. This feature is shared only by Paya (/-ú/), the most divergent language (both geographically and lexically), a fact that suggests that it is probably a retention not an innovation.

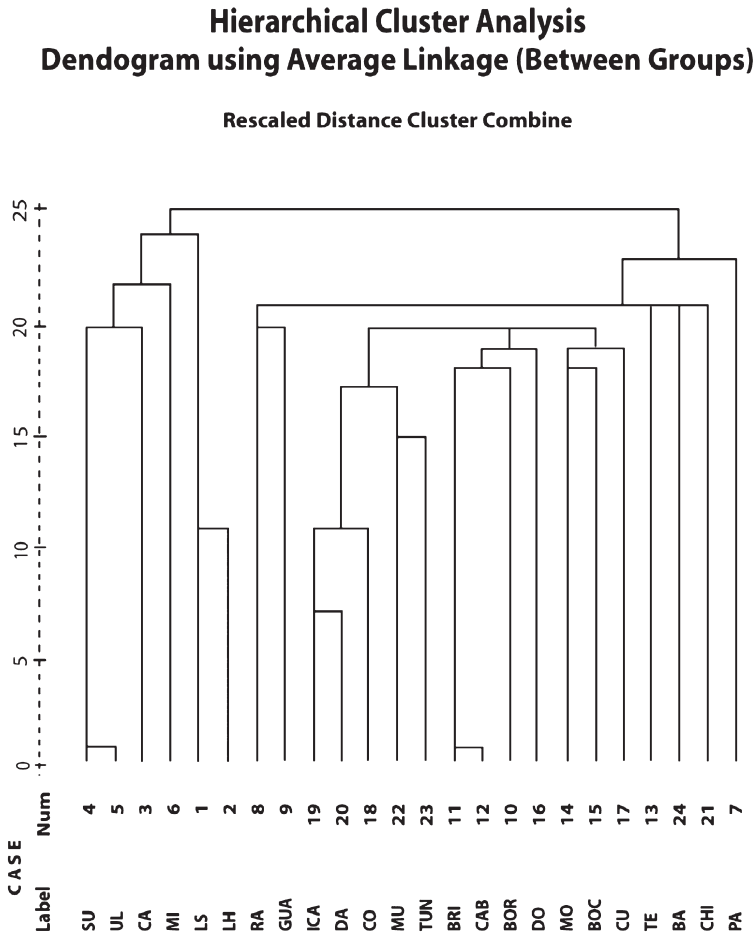
4.1.1.3.3. Degrees of relationship according to the included comparative evidence

The closest relationships are those between Cogui, Damana, Atanques, and Ica (the Arhuacan languages). Among the other languages, Chimila appears closer to the Arhuacan subgroup. Muisca has a similar degree relationship with both the Arhuacan languages and Tunebo. Tunebo and Barí are the ones which appear, in general, to be more distant from the rest.

4.1.2. Evidence provided by lexicostatistics

Constenla-Umaña has applied lexicostatistics for both subgrouping and glottochronological purposes to 16 languages in a series of papers (1985a, 1985b, 1989, 1995, 2005).

His last lexicostatistic analysis (Constenla-Umaña 2005) used a list of 110 items with an 86 % retention rate. The complete list was obtained for the following languages: Paya, Guatuso, Cabécar, Bribri, Boruca, Térraba, Guaymí, Bocotá,



(From Constenla Umaña, 2005)

Figure 1

Cuna, Chimila, Cogui, Damana, Ica, Muisca, Tunebo, and Barí, and from four Misumalpan and two Lencan languages as well. The Rama and the Dorasque lists included 109 and 99 items respectively. The availability of new data and progress in the knowledge of phonological correspondences allowed improvements both in the lists of some languages and in the recognition of cognates. The outcome the dendrogram obtained by means of the average linkage between groups method of cluster analysis is seen in Figure 1.

The dendrogram supports the division in two – Paya and a group which includes all the other languages – present in previous lexicostastistic studies. The group is in turn divided in three isolated languages –Chimila, Barí and Teribe/Térraba – and two subgroups: Votic (Rama-Guatuso) and a large one comprising the

remaining languages. The second subgroup shows three divisions: the first one includes the languages spoken to the east of the Magdalena River (Colombia) except for Chimila and Barí, the second one includes Bribri, Cabécar, Boruca, and Dorasque, and the third one Guaymí, Bocotá, and Cuna. The subdivisions in general confirm previous analyses: (a) the languages of the first division are split into Muisca-Tunebo, and the Arhuacan languages, and these in turn into Cogui and Damana-Ica; and (b) Bribri-Cabécar and Guaymí-Bocotá are recognized as the closest pairs among the remaining languages.

4.2. Proposed classification on the basis of both comparative and lexicostatistic evidence

The evidence from the comparative method and that from lexicostatistics, although agreeing in many respects, do not coincide completely.

The main disagreement is the position of three languages: Teribe/Térraba, Chimila, and Barí. The comparative method links Teribe/Térraba to Bribri and Cabécar, and links Chimila and Barí to the other languages spoken to the east of the Magdalena River. Although in the dendrogram the three languages appear isolated, the percentages of lexical relationship confirm this to a certain degree: the highest percentages of these languages are with both Bribri and Cabécar in the case of Teribe/Térraba, with Damana and Ica in the case of Chimila, and with Tunebo in that of Barí. Here the hypothesis will be advanced that particular circumstances must have accelerated the rate of lexical replacement.

Another important difference is that the dendrogram in Figure 1 does not reflect the existence of the Isthmic subgroup, for which comparative evidence is quite strong. In both cases, comparative evidence will be given precedence.

As pointed out before, the evidence provided by the comparative method relates Muisca in a similar way to the Arhuacan languages, Chimila and Tunebo. The lexicostatistic evidence, on the other hand, clearly indicates a particularly close relationship with the last language. Tunebo and Muisca share many lexical isoglosses which oppose them to the Arhuacan languages and, in a lesser degree to Chimila, as can be seen in the following three examples. The first person pronoun in both languages comes from an etymon /*hase/ (Mu /hɨtʲa/, Tun /asa/) while the corresponding pronouns in the other Magdalenic languages show reflexes of /*da/ as their root. The etymon of 'see' is /*ihst-/ (Mu /ihist-/, Tun /ist-/) while Chimila and the Arhuacan languages show reflexes of/*sũ/. The etymon of 'to cry' is /*kod/ in these languages and Barí (Mu /kon-/, Tun /kon-/, Ba /kɔra-/), and /*bo/ in the Arhuacan languages.

The development of personal pronoun prefixes is an innovation shared by Paya, Votic, and most Magdalenic languages. In a previous classification (Constenla-Umaña 1990b, 1991) on the basis of this and the fact that Paya and some Magdalenic languages have an imperative with a common etymon, that Muisca and Gua-

tuso have a related transitive prefix with a common etymon, and that Paya, Rama, and Cogui have a reflexive-detransitivizing prefix with a common etymon (shared by Cuna too), I divided Chibchan into two groups: one which coincides almost completely with the Isthmic below, and another one including Paya,Votic and Magdalenic. As I pointed out later (Constenla-Umaña 1995: 42), currently I do not find these facts conclusive, and I consider that my 1990b proposal is an interesting hypothesis which still lacks sufficient support. In the first place, the only one of these isoglosses which for sure is an innovation is the development of personal pronoun prefixes, and there are other cases in which an innovation is shared by languages which clearly belong to different subgroups, the best example being the complete merger of /*p/ and /*b/, which only Bribri, Cabécar, and Teribe/Térraba do not share. In the second place, at least until now, neither lexicostatistics nor the comparative method has provided evidence of a closer relationship between Paya and Votic than between Paya and most Isthmic languages. Previously, I had pointed out some particular lexical coincidences between Paya and the Magdalenic languages, for example, their coincidence in the number 'ten' (Pa /uka/, Tun /ukasi/, Co /ugũˈa/, Ica /ˈuga/, Da /ˈugua/), but the problem is that the same thing happens with the Isthmic languages as well, for example, in the case of 'tail' (Pa /pàɾ-/, Bri /baɭe̋k/, Cab /baɭék/, Te /ɸlàk/, Guay /kɯbaɾa/).

In this classification, Chánguena, Atanques, and Duit will be included because there is enough evidence to allow their placement (Constenla-Umaña 1985a, 1993a: 110–113, 115–118). Antioquian and Huetar are excluded because the data on them are so scarse that it might happen that they may never be subgrouped with sufficient certainty (Constenla-Umaña 1984 and Quesada-Pacheco 1992 are of the opinion that in the case of Huetar there are indications of greater affinity to Guatuso and Rama).

I. Paya

II. Core Chibchan:

IIA. Votic: Rama, Guatuso.

IIB. Isthmic:

B1. Western Isthmic: B1.1. Viceitic: Cabécar, Bribri. B1.2. Teribe/Térraba. B1.3. Boruca.

B2. Doracic: Dorasque, Chánguena.

B3. Eastern Isthmic: B3.1. Guaymiic: Guaymí, Bocotá. B3.2. Cuna

IIC. Magdalenic:

C1. Southern Magdalenic: C1.1. Chibcha: Muisca, Duit. C1.2. Tunebo. C1.3. Barí.

C2. Northen Magdalenic: C2.1. Arhuacic: C2.1.1. Cogui. C2.1.2. Eastern-southern Arhuacic:
C2.1.2.1. Eastern Arhuacic: Damana, Kankuama. C2.1.2.2. Ica. C2.2. Chimila

4.3. External relationships: Chibchan as a member of the Lenmichí Micro-Phylum

In matter of external relationships, Chibchan has been considered as the nucleus of the different proposals (such as those mentioned at the end of 2.3.) that have been made of a Macro-Chibchan phylum with members from Argentina (Allentiac) and Chile (Atacameño) to Mexico (Tarascan) and even Florida, in the United States of America (Timucua). In addition, relationships have been proposed with the Hokan phylum (Jijón y Caamaño 1943), with Mayan, Cariban and Arawakan (Schuller 1919/20), with Uto-aztecan and Pano-Tacanan (Holt 1986), and most of the indigenous languages of the Americas (Greenberg 1987). None of these multiple proposed relationships had been proven by means of a systematic application of the comparative method, but this author recently presented evidence to support a relationship with two neighboring families: Misumalpan and Lencan (Constenla-Umaña 2005), which constitute the Lenmichí micro-phylum. According to this study, the Lenmichí Micro-Phylum first split into Proto-Chibchan and Proto-Misulencan, the common intermediate ancestor of the Lencan and the Misumalpan languages (for the relationship between Misumalpan and Lencan see Constenla-Umaña 2002). This would have happened around 9,726 ±1,105 years before the present or 7,720 B.C. (the average of the time depths between the Chibchan languages and the Misulencan languages). This date is interesting because it falls at the beginnings of the first millennium of the archaelogical period of the Hunters-Collectors (8,000–4,000 B.C.; Fonseca-Zamora 1992: 8). Probably the big changes in the way of life which occurred during the transition from the preceding period due to the disappearance of pleistocenic megafaune were the extralinguistic factors which motivated the division of the micro-phylum. The inmediately following divisions according to glotochronology would have taken place also during the Hunters-Collectors period, in its last millennium. The respective subancestors of the Lencan and the Misumalpan languages would have separated around 7,075 before the present (5,069 B.C.), and Paya and the intermediate ancestor of all the other Chibchan languages around 6,682 (4,676 B.C.). During the 5th millennium B.C. began a series of transformations (Fonseca-Zamora 1992: 87–96) which lead to the following period, that of the Specialized Collectors-Domesticators (4,000 to 1,000 B.C.).

4.4. The Proto-Chibchan homeland

At the beginnings of the 16th century A.D., the Chibchan languages were distributed in four discontinuous regions: (a) the Paya territory in eastern Honduras, (b) the southern Central American territory beginning in the southern Atlantic coast of Nicaragua with the Rama and extending to western Panama in which at that time there was an uninterrupted chain of Chibchan peoples, (c) the northwest-

ern Colombian territory of the Cuna who inhabited the border of Panama and Colombia between the rivers Tuira and Atrato, and the Urabá Gulf, and the Antioquians (Catíos and Nutabes), who according to Rivet (1946: 33) were settled from Anzá on the leftbank of River Cauca to the south to the upper Sinú River, and (d) the northeastern Colombian territory, in which there was a continuous chain of Chibchan peoples extending along the Magdalena from Cundinamarca in the south to the Sierra Nevada of Santa Marta in the north, and whose mid part reached the Cocuy and Perijá mountains on the Colombian-Venezuelan border. The first and second of these territories were clearly separated by peoples of the Misumalpan family, who occupied most of Central and Atlantic Nicaragua. The second was separated from the third by the Cueva (Chocoan, not Chibchan, according to the few lexical data available, Constenla-Umaña 1991:47–48), who occupied eastern Panama. Finally, between the third and the fourth, there was a series of peoples of proven or supposed Cariban affinities, such as the Opon, the Muzo, the Panche, and the Pijao.

After the first split of Proto-Chibchan had taken place (around 6,682 years before the present, as pointed out before), there where only two languages, the ancestor of Paya and the ancestor of the rest, whose territory must have been to the south. Taking into consideration only the Chibchan languages, it would not be possible to determine whether the ancestor of Paya migrated north to Honduras from a territory in the south, or whether the ancestor of the Core Chibchan languages migrated south. But the fact of the relationship between Misumalpan and Lencan with Chibchan clearly indicates that the original territory was Honduras, the only place in which the three genealogical groups were represented. It is a principle of migration theory that when descendants of a common ancestor are distributed in areas that differ in diversity, migration must have taken place "from the more diversified area to the less diversified" (Dyen 1956: 625). In addition, even if we take into consideration only the Chibchan languages, southern Central American territory has to be recognized as the one originally inhabited by the speakers of Proto-Core Chibchan, because it presents the greatest diversity and the greatest overlapping of isoglosses (including some which extend predominantly to the east), which suggests that fragmentation began there. For example, in this territory there are both languages which merged /*p/ and /*b/ and languages which did not, while everywhere else only languages with the merger are found (Constenla-Umaña 1981: 335–8). In the northeastern Colombian territory, which because of the number of languages included is the other region that could be thought as original, in spite of important geographical distances, Muisca and the Arhuacan languages exhibit percentages of lexical relationship in common that in the southern Central American territory occur only between neighboring or very near languages.

According to this, the ancestors of the speakers of the Magdalenic languages migrated eastwards from southern Central America around 5,225 before the present (3,219 B.C.). Not long after that, around 4,800 before the present (2794 B.C.)

another migration in the same direction took Cuna away from the other Eastern Ishtmic languages. The division of Core Chibchan would have begun just a little before the first of these migrations, because the average of the time depths between the Votic languages and the others is 5,325 before the present (3,319 B.C.).

The increasing importance of the domestication of plants and horticulture, with the consequent sedentarism and attachment to a particular territory, would have been the extralinguistic causes of these new fragmentations of the stock into its main subdivisions.

4.5. Lexical reconstruction and the culture of the speakers of Proto-Chibchan

The reconstructed lexicon provides us with an image of a way of life which is compatible with the times refered to in the last paragraph (Constenla-Umaña 1990b: 22, 1995: 44–45).

Speakers of Proto-Chibchan had horticultural knowledge as pointed out by the reconstruction of /*dihke/ 'to sow' (Pa /tiːʃ/, Guat /tiːki/, Bri /tkɪ-/, Te /dɪgí/, Cu /tike/, Co /nik-/, Mu /si-/, Tun /rihk-/, barí *diga*) and /*te[1]/, 'cultivated clearing' (Pa /ta-/, Bri /tí/, Cab /tì/, térraba /tʰí/, boruca /tì/, Guay /tiɾe/, Cu /neka/; Co /te/, Da /te/, Mu /ta/).

They grew manioc (/*ike/: Ra /iːk/, Te /ik/, Do *igá*, Boc /i/, Guay /ɤ/, Co /ˈinʒi/, Tun /iʃa/) and other tubers (/*tuʔ/, Bri /tŭʔ/ 'tuber', Te /tʰú/ 'yam', Guat /tuː kuːɾu/ 'a tuber (*Dioscorea sp.*)', Do *tu* 'a tuber (*Xanthosoma sagittifolium*)' and, maybe, Chi *túsa:kráua* 'yam'), cucurbitaceae (/*apì/ 'pumpkin, squash', Ra /abiːs/, Cab /pìs/, Bri /apí/, Guay /be/, Ica *áma*, chimila *ame*), maize (/*e/, /*ebe/, Ra /aj/, Te / ìb/, Guay /i/, Boc /eu/, M /aba/, Tun /éba/, Co /ebi/) and tobacco (/*du, /*dua[1]/, Ra /tuː/, Guat /tuaː/, Bri /dauá/, cabécar /duuà/, térraba /duò/, boruca /duà/, Boc /tʃu/, Do *duá,* Co *nuái,* Da /duambiʒi/).

They made rattles from gourds /*tã[1]/ > Bri /tã̂/, Cab /tã́/, Guay /tɔ/, Cu /naː/, Co /ˈtãi/, Da *tagánna*) and gourd cups (/*toka/ > Bri /tkã̂ʔ/, Cab /tkã́/, Do *sok*, Cu /noka/, Co *touka* , Ica /tʃokwɨ/, Atanques *joke*).

There is not a common etymon for earthen pot common for the whole stock. There is one, /*ũ[3]/, shared by Votic and Isthmic languages (Ra /uːŋ/, Bri /ű/, Cab /ű/, Boc /ũ/, Guay /ũkwe/ 'caldron', Do *u*) and another, /*udu[1]/, shared by Magdalenic languages (Co *ullu* , Chi *urú-mbri*, Tun /ɾuka/). The second one occurs in Votic and Isthmic languages with the meaning 'boat, raft' (Ra /uːt/, Bri /uɭúkalò/, Bor /ɾù/, Te /ɭù/, Boc /du/, Guay /ɾu/, Cu /ulu/). This is very interesting, because, as was said before, the migration of the ancestors of the speakers of the Magdalenic languages took place before 3,000 B.C. according to glottochronology, and archaeologists consider that the earliest pottery of the area originated around that date (Willey 1984:361).

5. Areal typology of the Chibchan languages

5.1. The inclusion of the Chibchan languages in a Lower Central America linguistic area

The only areal-typological study including Chibchan languages from both Central and South America is so far the one published by Constenla Umaña (1991). According to it, the Chibchan languages belong to a Colombian-Central American linguistic area which corresponds quite well but not exactly to the Lower Central America archaelogical area, as proposed in the map included by Lange and Stone (1984:4).

The Colombian-Central American linguistic area includes eastern and central Honduras, eastern El Salvador, central and Atlantic Nicaragua, Costa Rica except for the Nicoya Peninsula in the northwest, Panama and the northern part of South America included inside a line which begins south of the mouth of the San Juan River on the Pacific coast of Colombia and follows Parallel 4 eastward until it meets Meridian 74 to the south of Bogotá and then goes to the northeast until the Cocuy Sierra, where the Boyacá Department limits with the Apure State of Venezuela, and from there goes north until the border of the Magdalena and La Guajira Departments of Colombia on the Atlantic coast.

The main features shared within this area are voicing contrasts in stops, SOV order, postpositions, predominant genitive-noun order, noun-adjective order, noun-numeral order, non obligatoriness of initial position for question words, negation predominantly expressed by suffixes or postposed particles, absence of gender contrasts in pronouns and inflection, absence of accusative case marking in most languages, predominance of languages without the non possessed (absolute state)/possessed (construct state) opposition in nouns. All these features prevail in the members of the Chibchan stock.

Besides Chibchan, the Colombian-Central American Area includes Jicaquean, Lencan, Misumalpan, and Chocoan. In Constenla Umaña (1991: 128), Betoy was included, but this language actually belonged to one of the neighboring areas dealt with below.

The fact that Chibchan, Misumalpan and Lencan are genealogically (although remotely) related suggests that the traits characterizing the Colombian-Central American Area are very old, and we are dealing with what dialectologists call a *relic area*.

5.2. Typological contrasts between the Colombian-Central American Area and the sorrounding linguistic areas

The linguistic areas sorrounding the Colombian-Central American Area are Mesoamerica to the west and north, the Ecuadorian-Colombian Subarea of the Andean Area to the southwest, and the Venezuelan-Antillean Area to the east of the

line going from the Cocuy Sierra to the Atlantic coast. To the east of the line going from the Cocuy Sierra to the point where parallel 4 and meridian 74 meet lies an archaelogical area, Orinoquia, that has not received atention from the point of view of areal linguistics, except for some very preliminary observations in Constenla-Umaña (1999). Orinoquia is generally included in the wider archaelogical Amazonic Area (Constenla-Umaña 1991: 4), but it has not been considered in the proposals of an Amazonic Linguistic Area, and Miggliazza's (1985) Orinoco-Amazon Linguistic Area, which includes only a very small part of it, takes into consideration only one of its languages: Piaroa. Table Nº 1 exemplifies some of the main contrasts between the Colombian-Central American Area and the sorrounding areas. The following abbreviations are used: Island C. (Island Carib), OV (patient verb basic order in transitive verbs), Posp (the relators of nouns are postpositions), N-A (noun-adjective order), G-N (genitive-noun order), N-Nu (noun-numeral order), Ac (acusative marking by means of affixes or adpositions in basic, nonemphatic, transitive sentences), GC (gender contrasts), u/o (contrast between at least two rounded back vowels) bdg (existence of voicing contrasts in stops), mn/ɲ (contrats between a palatal nasal and other nasal consonants), s/ʃ (contrast between an alveolar and a palato-alveolar fricative), l/ʎ (contrast between two laterals: an alveolar and a palatal). If the language presents the trait, + is used, if not, –. In the case of Posp, N-A, G-N, N-Nu, if the language presents both one of these and the opposite ones, ± is used.

As it can be seen, the greatest differences are those with Mesoamerica in which order in the clause, in relator-axis phrases, and in noun phrases is predominantly the inverse – VO, prepositions, adjective-noun, noun-genitive, numeral-noun –, and languages without voicing contrasts prevail.

The Venezuelan-Antillean Area has VO order and numeral-noun orders, noun-genitive is at least as frequent as genitive-noun, gender inflection occurs although it is not predominant, languages without voicing contrasts and with a palatal nasal consonant phoneme prevail.

The Ecuadorian-Colombian Subarea of the Andean Area has predominant adjective-noun and numeral noun orders and accusative case marking, and languages without a contrast between at least two rounded back vowels, and including the palatal phonemes /ʎ/ and /ɲ/ prevail.

The smaller differences are those with Orinoquia where OV is predominant, but not exclusive, numeral-noun order prevails, gender inflection is general, and fricative and nasal palato-alveolar and palatal phonemes such as /ʃ/ and /ɲ/ are rare. More research is needed to evaluate whether Orinoquia and the Colombian-Central American Area are really two different linguistic areas or whether they belong together in a major areal unit.

Table 1 Some typological contrasts between the Colombian-Central American Area and the sorrounding areas

	OV	Posp	N-A	G-N	N-Nu	Ac	GC	u/o	bdg	mn/ɲ	s/ʃ	l/ʎ
Lenca	+	+	+	+	+	–	–	+	–	–	+	–
Sumo	+	+	+	+	+	+	–	–	+	–	–	–
Waunana	+	+	+	+	+	–	–	+	+	–	–	–
Paya	+	+	+	+	+	–	–	+	+	+	+	–
Guatuso	+	+	+	+	±	–	–	+	–	–	–	–
Bribri	+	+	+	+	+	–	–	+	+	–	+	–
Boruca	+	+	+	+	–	–	–	+	+	+	+	–
Guaymí	+	+	+	±	+	–	–	+	+	+	–	–
Cuna	+	+	+	+	+	–	–	+	–	–	–	–
Cogui	+	+	+	±	±	–	–	+	+	–	+	–
Tunebo	+	+	±	+	+	–	–	+	+	–	+	–
Muisca	+	+	+	+	+	–	–	+	+	–	–	–
Barí	+	+	+	+	±	±	–	+	+	+	–	–
Chontal	–	–	–	–	–	–	–	+	–	–	+	–
K'iché	–	–	–	–	–	–	–	+	–	–	+	–
Pipil	–	–	±	–	–	–	–	–	–	–	+	–
Xinka	–	–	–	–	–	–	–	+	–	–	+	–
Chorotega	–	–	+	–	?	–	–	–	–	+	–	–
Subtiaba	–	–	+	–	–	–	–	+	+	+	+	–
Cuaiquer	+	+	–	+	–	+	–	–	–	+	+	–
Cayapa	+	+	±	+	–	+	–	–	+	+	+	+
Páez	+	+	±	+	–	–	–	–	+	+	+	+
Camsá	+	+	±	+	–	+	–	+	+	+	+	+
Cofán	+	+	–	+	–	+	–	–	+	+	+	–
Inga	+	+	–	+	–	+	–	–	+	+	+	+
Guajiro	–	±	+	–	–	–	+	+	–	+	+	–
Island C.	–	–	+	–	–	–	+	+	+	–	–	–
Timote	–	–	+	±	–	–	–	+	–	+	–	–
Jirajara	–	+	+	+	–	–	–	+	+	+	–	–
Yukpa	–	+	+	+	+	–	?	+	–	+	+	–
Guahíbo	+	+	+	+	–	–	+	+	+	–	–	–
Guayabero	+	+	+	+	–	–	+	+	+	–	–	–
Piaroa	+	+	+	–	±	–	+	+	+	–	–	–
Betoy	+	+	+	+	?	–	+	+	+	–	–	–
Piapoco	–	+	±	+	–	–	+	–	+	–	–	–
Achagua	–	+	+	+	–	–	+	+	+	–	+	–

5.3. Subareas in the Colombian-Central American Area and the divisions of Core Chibchan

There are two subareas that can clearly be recognized in the Colombian-Central American Area: the Northern, and the Central ones.

The Northern Subarea includes the languages in northern Costa Rica, Nicaragua, Honduras and El Salvador: those belonging to Jicaquean, Lencan, Misumalpan, Paya, Rama, and Guatuso. This subarea is characterized by traits such as person inflection in nouns, intransitive verbs, and transitive verbs (both for patient and agent), predominance of nominative-accusative case systems, length contrasts in vowels, presence of /ŋ/ and absence of /ʃ/.

The Central Subarea includes the languages spoken to the west of the Magdalena River in Colombia, Panama, and southern Costa Rica, that is the Chocoan and the Isthmian Chibchan languages. It is characterized by predominance of ergative or active case systems, absence of person inflection, and predominance of languages with nasalization and tenseness contrasts in the vowels, and voicing contrasts in alveopalatal affricates.

The part of the Colombian-Central American Area to the east of the Magdalena River presents a problem: although it has been claimed that in the past it included at least Cariban, Arawakan, and Chibchan languages, there seem to be enough data only in the case of those belonging to the last group. In addition, this part borders on Oronoquia, with which the Colombian-Central American Area has its weakest boundary. It is true that the languages on which there is enough information, with the exception of Tunebo, share traits which oppose them to the languages of the Central Subarea, such as person inflection in nouns and verbs, case systems which are basically nominative-accusative, and the absolute/construct state opposition. Yet, in view that the relationship with the neighboring Orinoquia has not been sufficiently analyzed, the proposal of a third subarea, the Eastern one, must be considered very tentative.

Finally, it is interesting to notice the coincidence between the division in subareas and the main divisions of Core Chibchan: the Northern Subarea includes Votic (and Paya); the Central Subarea, Isthmic, and the tentative Eastern Subarea coincide with Magdalenic.

6. Current state of the Chibchan languages

6.1. The number of speakers

Exact figures for the number of speakers of the extant Chibchan languages are not available. It is usual that the sources do not agree on this matter, and in many cases all the members of the ethnic groups, not just the speakers, are included. The following are figures from recent publications: Paya: 600 speakers, “most of them

adults over 20 years of age" (Holt 1999)/994 speakers (Gordon 2005); Rama: 29 native speakers in 2001(Craig 2003); Guatuso: 276 speakers in 2000 (Constenla-Umaña 2006b: 256); Bribri 5,963 speakers in Costa Rica in 2000 (Constenla-Umaña 2006b: 256), 2,521 members of the ethnic group in Panama (Proyecto Estado de la Región-PNUD 2003) in 2000, (probably about 1,512 speakers); Cabécar: 8,441 speakers in 2000 (Constenla-Umaña 2006b: 256); Teribe: 3,000 in 1996 (Gordon 2005); Bocotá: 3,781 members of the ethnic group (Margery-Peña 1996), probably about 3,251 speakers/ 18,724 members of the ethnic group (Proyecto Estado de la Región-PNUD 2003) in 2000 (probably about 16,102 speakers); Guaymí 169,130 members of the ethnic group (Proyecto Estado de la Región-PNUD 2003) in Panama in 2000 (probably around 145,451speakers), 2,172 speakers in Costa Rica in 2000 (Constenla 2005: 256); Cuna 89.000 members of the ethnic group in Panama (Sherzer 2003: 1)/ 57,114 San Blas Cuna population (Panama), 1576 Border Cuna population (Panama 700, Colombia 876) in 2000 (Gordon 2005); Chimila 2,000 members of the ethnic group in 2000 (Gordon 2005); Cogui 9,970 in 2000 (Gordon 2005)/ 7000 (Ortiz-Ricaurte 2000: 757); Damana: 3,225 members of the ethnic group in 1993 (Gordon 2005)/2,800 members of the ethnic group in 2000 (Ortiz-Ricaurte and Trillos-Amaya 2000: 730); Ica: 14,301 members of the ethnic group in 1998 (Gordon 2005)/ from 8,000 to 10,000 (Landaburu 2000: 733); Tunebo: 3,550 members of the ethnic group in Colombia (Gordon 2005)/ from 2,500 to 3,500 members of the ethnic group in Colombia (Queixalós 2000: 568)/400 in Venezuela according to the website *Joshua Project-Peoples by country profiles* (www.icta.net/joshuaproject/peopctry.php?rop3=101943& rog3= VE); Barí: 2,500 speakers in 2001 (1,000 in Colombia, 1,500 in Venezuela; Rincón and Quesada 2001–2002: 8)/850 in Colombia in 2000 (Gordon 2005).

There are from 252,935 to 308,886 speakers of Chibchan languages.

6.2. State of retention of the extant Chibchan languages

Using Bauman's well known classification of "Indian languages states of health" (Bauman 1980: 5–13) which acknowledges five states (flourishing, enduring, declining, obsolescent, extinct), Margery-Peña (2005: 124–127) considers that the two Chibchan languages in best standing are Guaymí and Cuna (both from Panama), which he classifies in the enduring state (the speakers of Guaymí represent about 47 % of the total of speakers of Chibchan languages, and those of Cuna, 32 %). Bocotá, and Damana seem to be also in the enduring state, although information is scarse in the first case and somewhat contradictory in the second one. Among the other extant Chibchan languages, Paya, Guatuso, Bribri, Teribe and Chimila, are clearly declining, and Rama is obsolescent. Due basically to isolation, and following Bauman's criteria strictly, Cabécar, Cogui, Ica, Tunebo, and Barí can be classified as enduring because there are more younger than older speakers,

and the population of speakers has tended to remain constant. However, the probabilities of this state being maintained are not high, because of their small number of speakers and the fact that isolation will not continue indefinitely.

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Linguistic studies in the Cariban family

Spike Gildea

1. A snapshot of the Cariban family[1]

Languages belonging to the Cariban language family are spoken in northern South America, the bulk across northern Brazil, Venezuela, Guyana, Surinam and French Guiana, with outliers to the west in Colombia and to the south in Central Brazil. The historical literature on the Cariban family names over 100 languages, maybe half supported by actual linguistic information (e.g. word lists, brief collections of utterances), and of these, just more than half possibly represent distinct languages. Clearly, many of the languages spoken at the time of first contact with Europeans have become extinct, with an unknown number leaving behind no record. Currently, some 25 Cariban languages are still spoken, with a cumulative total of between 60,000 and 100,000 speakers; census figures in individual countries do not distinguish number of speakers separately from number of members of ethnic groups. Well over half the speakers belong to the three closely related languages of the Pemóng Proper Subgroup (Kapóng, Makúshi and Pemón) and Kari'nja (a.k.a. Carib proper, Galibi, Kaliña, Cariña). The actual number of speakers for the rest of the Cariban languages falls between around 3000 (e.g., Tiriyó) and a handful of elders (e.g., Mapoyo). One Caribbean language historically claimed to be Cariban (known variously as Island Carib, Black Carib, and Garifuna) is linguistically Arawakan, with some Cariban features (mostly vocabulary) due to intensive contact with Kari'na invaders (Hoff 1995b).

1.1. Recent publications and other sources

Recent surveys of linguistic knowledge of the family can be found in Gildea (1998) and Derbyshire (1999), supplemented by recent encyclopedia articles (Gildea 2003, 2005a; Hoff 2003; Meira 2005). Gildea (1998) provides a survey of modern descriptive work as of 1997, and the years since have seen a veritable explosion of new work in the family. Reference grammars have been written for Tiriyó (Meira 1999, forthcoming; Carlin 2004), Waiwai (Hawkins 1998), and Wayana (Tavares 2005), and substantial descriptive MA theses and/or Ph.D. dissertations have been written for Akawaio (Caesar-Fox 2003), Arara (Alves 2010), Ikpéng (Pacheco 1997, 2001; Campetela 1997, 2002), Ingarikó (Souza Cruz 2005), Kari'ña (Socorro 1998; Yamada 2010), Kuikúro (Santos 2002, 2007), Makushi (MacDonell 1994), Waimiri Atroari (Bruno 2003), and Ye'kwana (Cáceres 2007). A range of descriptive articles has also appeared in edited volumes and refereed journals, in-

cluding Álvarez (1996, 1997, 1998, 2005); Camargo (1996, 2000, 2003); Carlin (1999, 2006, 2011); Clemente (2007); Franchetto (2002, 2003, 2004, 2006, 2010); Franchetto and Santos (2003); Gildea (2000, 2002), Gildea and Castro Alves (2010); Mattéi-Muller (2002, 2003, 2007); Meira (1998, 2000b, 2001, 2003a, 2003b, 2006a, 2006b); Meira and Gildea (2009); Pacheco(2003); Villalón and Granadillo (2000); Yamada 2011.

The end of 2005 saw the first Conference on Cariban Grammar, in which 15 active field linguists gathered to share insights into common descriptive and analytical problems faced in the related languages with which they work; with well over half of the linguists in attendance still in the early stages of their careers, the future of Cariban linguistics looks bright. Although there is little or no documentation of the distinctive variation characteristic of individual Cariban communities (cf. the trenchant criticism in Caesar-Fox [2003: 276]), active academic research projects are now ongoing with at least some varieties of all identified Cariban languages except Katxúyana (recently dispersed into inaccessible regions of the Trombetas drainage in northern Brazil) and Waimiri Atroari (currently inaccessible for political reasons).

Thanks in part to the extensive new descriptive material available, historical and comparative work has also expanded appreciably. The work is of three types: reconstruction of linguistic features to Proto-Cariban (Meira 2002; Gildea 2003b; Meira and Franchetto 2005; Gildea and Payne 2007; Meira and Gildea 2009; Meira, Gildea and Hoff 2010; Gildea, Hoff and Meira 2010; internal classification of the family (Meira 2000a; Gildea 2003a; Mattéi-Muller 2002, 2003; Meira and Franchetto 2005; Meira, Gildea, and Hoff 2010), and external classification of the family (Gildea and Payne 2007; Meira, Gildea and Hoff 2010). All three of these lines of scholarship have been fed by the remarkable Cariban Databases created and made available to the research community by Sérgio Meira. As of 2006, there were databases with searchable, parsed synchronic data from 20 Cariban languages, totaling over 22,000 lexical entries extracted from over 47,500 clause records (about 27,500 taken from texts and the remainder coming from elicited data or illustrative sentences found in published sources). In addition, Meira's comparative Cariban Toolbox database contained records for 1206 cognate sets as of 2006, some containing as few as 2–3 cognates, others containing cognates from nearly every language in the family. Meira has continued to expand these databases, and they will certainly be the basis of the next advances in comparative Cariban work.

1.2. Internal classification of the family

Despite the dramatic increase in quantity and quality of scholarship in Cariban languages and linguistics, lexical descriptions are still too sparse and too uneven in quality to permit a large-scale reconstruction of Proto-Cariban vocabulary, which would in turn permit a finely-detailed internal classification of relationships between languages and groups within the family. Even so, some tentative progress

has been made since the classifications surveyed in Gildea (1998: 7–9). After a brief discussion of these older classifications, I turn to the (more limited) classification that has been supported by (at least some) explicit data and argumentation.

In discussing the earlier classifications, I take this opportunity to reiterate that Durbin's (1977) classification has been rejected by every subsequent comparativist, many of whom provide convincing evidence against one or more of his hypotheses.[2] In contrast, the 14 Groups posited in Girard (1971) have largely been reinforced by the accumulation of more modern data. Kaufman's (2007) classification is virtually identical to his earlier 1974 classification, largely depart from Girard's groups (although he does, for no obvious reason, rename some of Girard's groups, switching the name from one to another of the member languages in the group, cf. Motilon group > Yukpa group, Paushiana group > Paravilyana group, and Bonari group > Jawaperi group), and to that extent it is pretty solid. The major problems come with (i) his decision to use Loukotka's error-filled data as the basis to propose higher-level grouping, and (ii) his decision to construct a "conspectus" that attempts to reconcile Girard's reliable work with Durbin's and Loukotka's (1968) more problematic classifications. In the body of recent comparative work in the family, no evidence has emerged in support of the four posited higher-level groupings in Kaufman (1994), nor for the two which are retained in Kaufman's (2007).[3] Both of Kaufman's classifications are represented in Figure 1 (with the two branches that are lost between 1994 and 2007 in parentheses), from which we can now critique all four of the proposed branches.

First, in the Guiana Branch (from 1994 only), the separation of Kashuyana from Girard's Waiwai Group is clearly erroneous (Gildea 1998: 92–94; Meira, Gildea and Hoff 2010); further, the combination of Katxúyana/Waiwai with the Tiriyó group is clearly incorrect (See the Parukotoan Group in Figure 2, which is identified by in the unique treatment of the sequence *jô [Meira, Gildea and Hoff 2010]). The North Amazonian Branch (also from 1994 only) contains the reasonably well-studied Pemong group, but newer data from the Jawaperi group (Bruno's [2003] thesis on Waimiri Atroari) has failed to provide evidence for a closer relationship between these two, whereas Panare (which is isolated at the bottom of Kaufman's chart) arguably does combine into a low-level branch with the Pemóng group (Gildea 2006). In the Central Branch (from both classifications), Wayana and Ye'kwana (Makiritare) appear similar both phonologically and morphologically, but Apalaí and Mapoyo-Yawarana are each quite divergent – both from the first two and from each other – and Kumana and Yao are poorly-understood extinct languages that may never be classifiable with confidence.[4] Finally, the Southern Branch (from both classifications) follows Girard in erroneously combining Bakairí and Kuikúro into a single group, and placing the Arara Group separately. Meira and Franchetto (2005) show clearly that (i) Bakairi and the Arara group form a relatively low-level branch, whereas (ii) Kuikúro/Kalapalo shows no evidence of forming a tighter genetic unit with any other group to the level of Proto-Cariban.

A. Opón-Karare language
B. Yukpa group: Yukpa, Japreria, †Koyama
C. Kari'nya language

(Guiana branch: D-E-F – 1994 only)

D. Tiriyó group
  D1. Tiriyó subgroup: Akuriyó, Tiriyó
  D2. Karihona subgroup: Hianákoto, Karihona
  D3. Salumá
E. Kashuyana group: Kashuyana-Warikyana, Shikuyana
F. Waiwai group: Waiwai, Hixkariana

(North Amazonian branch: G-H-I – 1994 only)

G. Jawaperi group: †Bonarí, Jawaperi (Waimirí-Atroarí)
H. Paravilyana group
  H1. Sapará
  H2. Paravilyana subgroup: Pawishiana, †Paravilyana
I. Pemong group
  I1. Pemong proper subgroup: Makushí, Pemong (Taurepang, Kamarakotó, Arekuna), Kapong (Akawayo, Patamona, Ingarikó).
  I2. Purukotó

Central branch: J-K-L-M-N-O

J. †Kumaná language (†Chayma, †Cumanagoto)
K. †Yao group: †Tiverikoto, †Yao
L. Wayana group: Wayana, †Arakajú
M. Apalaí
N. Mapoyo-Yavarana language (†Tamanaku)
O. Makiritare group: Makiritare (De'kwana), Wajumará

Southern Branch: P-Q

P. Bakairí group: Bakairí, Amonap (Kuikúro, Kalapalo)
Q. Arara group: Arara-Pirirí, †Apiaká-Apingi, †Juma, †Yarumá, Chikaon (Txikão)
R. †Palmella language
S. †Pimenteira language
T. Panare language

Figure 1. Classification of the Kariban Family (Kaufman 1994/2007)
(Underlined language names indicate languages also found in Figure 2)

All of the early classifications (counting Kaufman [2007] among these in his reliance on those classifications) are flawed to a greater or lesser extent by reliance on low-quality data. In the last 10 years, we have begun to see progress in collecting and collating reliable data. One Group (Kaufman's Tiriyó Group, Meira's Taranoan) has received careful, detailed comparative attention, with a reconstruction of phonology, lexicon and morphology to the Proto-Group level (Meira 2000a). While it has not yet been done, descriptive materials now available make it possible to do such comparative work for the Parukotoan group (Meira's [2005]

Parukotoan Branch (A)

A. Parukotoan Group
   A1. Katxúyana (Shikuyana, Warikyana)
   A2. Waiwai SubGroup: Waiwai (Wabui, Tunayana), Hixkaryana

Pekodian Branch (B-C)

B. Bakairí
C. Arara Group: Arara (Parirí), Ikpéng (Txikão)

Venezuelan Branch (D-E-F-G-H)

Pemóng-Panare Macro-Group (C-D)

D. Pemóng Group (Kapóng [Akawaio, Patamuna, Ingarikó], Makushi, Pemón [Taurepang, Kamarakóto, Arekuna]).
E. Panare

Mapoyo-Tamanaku Macro-Group (E-F-G)

F. †Kumaná (†Chaima, †Cumanagota)
G. Mapoyo/Yawarana (Mapoyo, Wanai, Yawarana, Pémono)
H. †Tamanaku

Nahukwa Branch (I)

I. Nahukwa Group: Kuikúro, Kalapalo

Guianan Branch (J-K-L-M)

J. Kari'nja (Carib, Kalinya, Cariña, Galibi)
K. Makiritare (De'kwana, Maiongong, Ye'kwana)
L. Taranoan Group
   L1. Tiriyo Subgroup: Akuriyo, Tiriyo, Trio
   L2. Karihona
M. Wayana

Residue (Groups and Languages still in search of branches, in alphabetical order)

N. Apalaí
O. Waimirí Atroarí
P. Yukpa Group: Yukpa, Japréria

Figure 2. A somewhat speculative classification of the modern Cariban Family organized by degree of evidence for higher-level grouping

label, for the group containing Waiwai, Hixkaryana and Katxúyana), and for the Pemón-Panare macro-group (Gildea 2003b). Figure 2 shows my current hypotheses regarding classification, with the languages and groups (which I expect to be quite reliable) organized from top to bottom based on the confidence with which I currently posit higher-level groupings. Of the extinct languages, only the more robustly attested †Tamanaku and †Kumaná are included in this classification – once we have created cognate sets with more reliable data, and identified the critical sound changes that distinguish higher-level groups, we may be able to return to the more poorly-attested languages and place them with more confidence.

The Parukotoan Branch is conclusively separated from the rest of the family at the earliest levels by the change Proto-Cariban *jô > Proto-Parukotoan *jo (Meira, Hoff and Gildea 2010). The Pekodian Branch is established in Meira and Franchetto (2005), which also conclusively separates the Nahukwa Group from that branch. The Venezuelan Branch is still largely an untested hypothesis, but it stands until someone finds a better explanation than shared origin for the combination of phonological and morphological features described in Gildea (2003b). Here, I have further elaborated the Venezuelan Branch based on Mattéi-Muller's (2002) suggestions, which include a Mapoyo-Tamanaku macro-Group, as well as †Kumaná. Based on work in progress by Cáceres with Ye'kwana (Makiritare), and based on a better understanding of Proto-Cariban *ô, I no longer place Ye'kwana (Makiritare) in the Venezuelan Branch. The Nahukwa Branch is a tentative recognition that, to the extent that numerous phonological and morphosyntactic changes in the Nahukwa Group are not shared with any other Cariban group, the group may form its own branch. Although there has been no argumentation of any kind for a Guianan Branch in the literature, I share with Meira (2005) the intuition that the phonological and morphosyntactic similarities between Kari'nja,[5] Taranoan, and Wayana are too numerous to be explained in the absence of shared innovation. To those three, I now add Makiritare. It is probably no coincidence that the Residue category contains the least-documented languages of the family: although in many ways quite different, Apalaí shows some suggestive similarities with Arara/Ikpéng (especially first person inclusive morphology); as more information becomes available about the least-documented languages, Waimiri Atroari, Yukpa, and Japréria, they may begin to look a bit less divergent within the family.

1.3. Possible links to other South American languages

Continent-wide comparative work has suggested a range of possible connections for the Cariban family. Loukotka (1968) linked Cariban with Tupían, Arawakan, and Panoan, but not with Jêan. Greenberg (1987) begins by proposing Macro-Carib, which consists of Cariban, the Bora-Witotoan family, the Peba-Yaguan family, and the isolates Andoke and Kukura; Macro-Carib then combines with Macro-Panoan and Macro-Ge to form his Ge-Pano-Carib, branch IV of his Amerind superfamily. Gildea and Payne (2007) test Greenberg's Macro-Carib construct with more reliable modern data, and their findings offer little support: the grammatical evidence adduced by Greenberg turns out not to reconstruct to Proto-Cariban, and the lexical data offer almost no support for any hypothesis of relationship (although we recommend further investigation of a possible Cariban/Peba-Yaguan connection). In both Loukotka's and Greenberg's classifications, a genetic connection between Cariban and Panoan remains unsupported. Rodrigues (1985) suggested a closer relationship between Cariban and Tupían, and Rodrigues (1996, 2000) expands that hypothesis to include Macro-Jê; neither of Rodrigues' hypo-

theses includes a putative Macro-Carib, and at least the Cariban portion of both are based on (limited) data from individual languages of the family. Recent comparative work by Meira, a portion of it available in Meira, Gildea and Hoff (2010), suggests that certain morphemes might be reconstructed to Proto-Tupían and Proto-Cariban, and that these proto-morphemes then appear to be good candidates for cognates between the two families. Given the current state of our knowledge of the languages of South America, it is impossible to make definitive statements, either in favor of or against, these long-range comparative hypotheses.[6]

2. Phonological features of Proto-Cariban and modern languages

This section briefly addresses some phonological issues in individual Cariban languages, beginning with questions of segmental inventory, then addressing the ubiquitous process of syllable reduction at morpheme boundaries and reviewing some of the unusual properties of the stress systems that have been described so far.

2.1. Phoneme inventories

Cariban languages do not present particularly elaborate phoneme inventories, and the reconstructed Proto-Cariban (PC) inventories are simpler still, with 8 consonants and 7 vowels (Table 1). This segment inventory is based on the cognate sets collected in Meira and Franchetto (2005), and differs from Girard's (1971) inventory by (i) eliminating Girard's alveolar affricate **c* (the fricatives/affricates are now considered a conditioned split from PC**t*) and (ii) adding Meira and Franchetto's **ô* (a central/back, mid unrounded vowel, probably either [ə] or [ʌ]); Girard discarded unrounded mid vowels as probable mis-hearings of [ɨ] or [e] (cf. Gildea, Hoff and Meira 2010: 93–94). Segment inventories in modern Cariban languages all present more consonant distinctions, but usually the same number of vowels, or else one fewer (losing **ô* to a merger with one or more other vowels), cf. the various modern phonemes compiled in Table 2.

Consonant inventories expand by one of three well-known historical processes: palatalization/lenition, intervocalic voicing, and debucalization (loss of oral articulatory features). Palatalization/lenition following /i/ (in nearly every language) and /e/ (in several languages) creates a coronal fricative or affricate /s, ʃ, ts, tʃ/ from **t*; in a few languages, the same environment conditions *n > /ɲ/ and *r > /rʲ as well. Intervocalic voicing creates the voiced stops, fricatives and affricates. The glottal stop and fricative are a result of debucalization, which happens when any obstruent syllable onset comes to be first in a consonant cluster due to loss of the following vowel (described as syllable reduction in Gildea [1995] and Section 2.2) or comes to be word-final as a result of vowel apocope (Gildea 2003b). The velar nasal is a result of either **m* or **n* coming to be word-final due to vowel apocope. The new approxi-

Table 1. Proto-Cariban phonemes

Consonants				Vowels		
p	t		k	i	ɨ	u
m	n			e	ô	o
w	r	j			a	

Table 2. A compilation of modern Cariban phonemes

Consonants					Vowels					
p	t		k	ʔ	i	ɨ	u	iː	ɨː	uː
b	d		g		e	ə	o	eː	əː	oː
	s	ʃ		h	(ɛ)		(ɔ)			
	z	ʒ				a			aː	
	ts	tʃ								
	dz	dʒ						ĩː	ɨ̃ː	ũː
m	n	ɲ	ŋ					ẽː		õː
w	r, l	j, rʲ	ɣ						ãː	

mants, /l/ rʲ/, and all both come from **r*, with /ɣ/ by a shift and /l/ by a split (conditioning environment still unknown). A number of other splits and mergers appear to have taken place, such as a subset of **p* weakening to merge with /w/ in Bakairi and Ikpéng/Arara (Meira and Franchetto 2005), and palatalization of **k* > /ʃ, ʧ/.

About half of the modern languages present the Proto-Cariban seven-vowel system, in all cases with the **ô* of Proto-Cariban system transcribed as /ə/. In one language, Akawaio (Caesar-Fox 2003), there is limited evidence of a split in the other two mid vowels, creating a few minimal pairs between /e/: /ɛ/ and one between /o/: /ɔ/. The other half of the modern languages present a six-vowel system, in each case simply losing PC **ô*. PC **ô* is a somewhat protean vowel (Gildea, Hoff and Meira 2010), harmonizing to /a/ when the nucleus of the next syllable is /a/, fronting to /e/ following /i/ or /j/, and undergoing unconditioned shift to /ɨ/ (Makushi, Waimiri-Atroari, Akawaio), /e/ (Kuikuro), or /o/ (Apalaí, Arara, Hixkaryana, Ikpéng, Kari'nja, Katxúyana, Waimiri Atroari, Waiwai, Yukpa). In many modern languages, fronting from **ô* to /e/ has occurred following one of two archaic word-initial morphemes, **i-* '3rd person' and **j-* 'Relational Prefix'; these prefixes have subsequently eroded to nothing in most languages, leaving behind an ablaut alternation in the first syllable of many words (Meira, Gildea, and Hoff 2010). Phonemic vowel length is created via syllable reduction, oral long vowels by loss of the following approximant /r/, and nasal long vowels by loss of a following nasal. The interactions of vowel length with syllable reduction and stress are discussed further in Sections 2.2 and 2.3.

2.2. Syllable reduction

Syllable reduction is first described clearly in a Cariban language by Hoff (1968) for Kari'nja and subsequently Girard (1971) discussed it as a phenomenon that complicates identification of cognates. The label "syllable reduction" was proposed by Mattéi-Muller (1981), and a summary of the verbal reduction patterns in five languages was given in Gildea (1995). In the last decade, the phenomenon has proven to be ubiquitous in the family, with examples from virtually every language. In addition to reinforcement of the patterns already identified in Gildea (1995), three new patterns have emerged that bear mentioning here: word-final reduction, the creation of a fortis-lenis distinction in obstruents, and the creation of conjugation classes in verbs.

First, a brief synopsis of syllable reduction as described in Gildea (1995). When the final CV syllable of a verb root contains a high vowel as its nucleus, that vowel is unstable and deletes before a -CV suffix. This makes the former onset of that final syllable a coda to the preceding syllable, and brings it together with the onset of the suffix to create a consonant cluster that then simplifies along well-known pathways (with different languages presenting different stages along the pathways). Obstruents assimilate to become a geminate of the following obstruent or they debuccalize to become a glottal (stop or fricative), which then becomes compensatory length on the preceding syllable; nasals become homorganic to the following consonant, then go on to become compensatory length plus nasalizaton on the preceding vowel; the approximant /r/ shows no intermediate step, but goes directly to compensatory length on the preceding vowel.

The phenomenon of word-final syllable reduction is most prominently attested in nouns in the Pemóng-Panare Macro-Group (Gildea 2003b), where final high vowels are subject to apocope, and the resultant word-final consonant then debucalizes, obstruents becoming first velar then glottal stops as in example (1a), nasals becoming velar (1b), the approximant /r/ simply disappearing (1c; compensatory length might be expected, but has yet to be reported), and glides incorporating into the preceding syllabic nucleus to become diphthongs (1d).

(1) a. **tôpu* 'stone' > **təp* > *tək* (Akawaio) > *təʔ* (Panare) / *tɨʔ* (Makushi)
b. **punu* 'flesh/meat' > **pun* > *puŋ* (Makushi, Akawaio)
c. **-ru* 'Possessed/Nominalizer' > **-r* > *-Ø* (Pemóng Group)
d. **weju* 'sun' > *wej* / *wei* (Pemóng Group)[7]

Word-final syllable reduction also contributes to difficulty identifying cognates for finite verbal morphology (cf. the cases of **-wɨ* > *-Ø* 'Recent past' and word-final **-te* > *-ʒ/-i/-e/-Ø*, **-nô* > *-n* (> *-ŋ*) /*-Ø* in nonpast inflections, cf. Gildea [1998: 98, Table 5.11]; Meira [2000b: 92]).

In Akawaio, and perhaps also in the less-documented southern Cariban languages, syllable reduction has combined with intervocalic voicing of obstruents to create something like a fortis-lenis distinction. As shown in Caesar-Fox

(2003:103–104), Akawaio presents both voiced and voiceless obstruents as phonemes; all voicing is originally conditioned by occurrence between sonorants (usually intervocalic, but also between nasals and vowels). Voiced obstruents become phonemic word-initially due to erosion of the personal prefixes **u-* '1st person' and **i-* '3rd person', which leaves voiced obstruents (sometimes labialized or palatalized, respectively) in word-initial position. Voiced obstruents are also becoming the lenis half of a fortis-lenis distinction intervocalically, where they are optionally fricativized (2a), in contrast to a series of fortis obstruents that are derived etymologically from syllable reduction, being pronounced variably as glottal-stop+obstruent, geminate obstruent, or simple voiceless obstruent (3a–3c).

(2) a. PC **epoɾɨ* > Ak. *eboro/eβoro* 'find'
b. PC **wɨtoto* 'person' > Ak. *idodo/iðoðo* 'shamanic killer'
c. PC **kajkuti* > Ak. *kajguʤi/kayɣuʒi* 'jaguar'

(3) a. PC **eseka* 'bite' > **eska* > Ak. *e'ka/ekka/eka*
b. PC **-tɨpô* 'PAST.NZR'[a] > **-tpə* > Ak. *-ʔpɨ/-pɨ*
c. PC **kapu-po-nô* 'sky-on-NZR'[a] > **kap-po-n* > Ak. *kaʔpoŋ/kappoŋ/kapoŋ*
(Akawaio ethnonym *Kapong*: 'people from the sky')
[a] NZR = NOMINALIZER

A parallel intervocalic voiced-voiceless contrast is generated via intervocalic voicing and consonant cluster reduction to a voiceless intervocalic obstruent in Bakairi (Meira and Franchetto 2005).

Consonant cluster reduction also arguably plays a role in verb class inflectional allomorphy in Kuikuro: as described in Santos (2005, 2007), the five inflectional classes of Kuikuro are determined based on allomorphy patterns for inflectional and derivational suffixes. In the absence of full paradigms for a range of verbs in each class, it is not possible to reconstruct the etymological phonological conditioning factor that gave rise to each verb class, but there are some clear indications that syllable reduction played a role. Consider first the range of allomorphy displayed in the suffixes for each verb class (Table 3).

Clearly, the allomorphy comes from phonological alteration of a single etymological form of each suffix (tentatively reconstructed in the second column, under the heading PC – Proto-Cariban), plus a final floating nasal element on all roots in Class I and some in Class II. The PUNCTUAL, PERFECTIVE, and CIRCUMSTANTIAL NOMINALIZERS are reconstructed in Gildea (1998: 120) and the PARTICIPLE in Gildea (1998: 141).[8] The PC forms for the CONTINUATIVE and the A NOMINALIZER reflect internal reconstruction based on synchronic allomorphy in Kuikuro and analogy to the comparatively reconstructed forms. Although idiosyncratic change must have occurred in a number of classes, much of the allomorphy can be described in a straightforward way as a consequence of phonological conditioning: the floating

Table 3. Suffix allomorphy verb classes in Kuikuro (Santos 2005)

	PC	I	II	III	IV	V
Continuative	*-tarɨ	ⁿ-daɣɨ	-taɣɨ ⁿ-daɣɨ	-taɣɨ	-tsaɣɨ	-ɣaɣɨ
Punctual	*-rɨ	-Ø	-nɨɣɨ	-lɨ	-jɨ	-lɨ
Perfective	*-tɨpɨ-rɨ	(ɨ)-hɨɣɨ	-tɨhɨɣɨ ⁿ-dɨhɨɣɨ	-pɨɣɨ	-tsɨhɨɣɨ	-pɨɣɨ
Participle[a]	*t-V-tjô	t-Vⁿ-di	t-V-ti t-Vⁿ-di	t-V-Ø (accent)	t-V-si	t-V-Ø (accent)
A.Nzr[a]	*k-V-tine	——	k-V-tiɲi k-Vⁿ-diɲi	k-V-ni	k-V-ɲi	k-V-ni
Circ.Nzr	*-topo	ⁿ-doho	-toho ⁿ-doho	-toho	-tsoho	-ɣoho

a. The prefix portion of the Participle and A Nominalizer inflections also show allomorphy conditioned. by the initial segment of the verb; the prefixal allomorphy is unrelated to the verb classes considered here.

nasal (almost certainly an outcome of syllable reduction) in Classes I and II causes voicing of /t/; a final palatalizing element in Class IV (sometimes an outcome of syllable reduction) causes affricativization of /t/, and consistent syllable reduction in Class II prevents the reduction of the initial syllable of the Perfective and the A Nominalizer. Santos (2005) assigns some 80 verb roots to the five classes, of which PC reconstructions exist for 10:

(4)

	PC		> Kuikuro	
a.	Class II			
	*utu	‘give’	> tuN	‘give’
	*apuru	‘close’	> ahuN	‘close’
	*ômô	‘enter’	> eN	‘enter’
	*ôpinô	‘descend’	> emuN	‘sink’ (?)
b.	Class III			
	*wô	‘shoot’	> e	‘kill’
	*ônô	‘eat.meat’	> eŋe	‘eat’
	*[wɨ-]tô	‘go’	> (u)te	‘go’
c.	Class IV			
	*kɨ	‘grate’	> ki	‘grate (manioc)’
	*ôtepɨ	‘come’	> e	‘come’
d.	Class V			
	*atpo	‘pierce’	> ipo	‘pierce’ (?)

Another result of syllable reduction is the creation of homophony in the forms of verb roots, in which it is their membership in different inflectional classes that dis-

tinguishes them. Inspired by Santos' presentation of a reconstructible minimal pair from classes III (*e* 'kill') and IV (*e* 'come'), I would hypothesize an evolution something like this:[9]

(5)	ôtepɨ-tarɨ	ôtepɨ-tɨpɨ-rɨ	wô-tarɨ	wô-tɨpɨ-rɨ
	ôepɨ-tarɨ	ôepɨ-tɨpɨ-rɨ	—	—
	ôpɨ-tarɨ	ôpɨ-tɨpɨ-rɨ	—	—
	əpi-tsarɨ	əpi-tsɨpɨ-rɨ	wə-tarɨ	wə-tɨpɨ-rɨ
	əp-tsarɨ	əp-tsɨpɨrɨ	—	wə-tpɨrɨ
	ə-tsarɨ	ə-tsɨpɨrɨ	ə-tarɨ	ə-tpɨrɨ
	e-tsaɣü 'coming'	*e-tsɨhɨɣɨ* 'came'	*e-taɣü* 'killing'	*e-pɨɣɨ* 'killed'

This sequencing of phonemic shift (*ə > e, *r > ɣ) is pure speculation, but it is clear that syllable reduction preceded the shift *$p > h$, creating the consonant clusters that protected a subset of *p from becoming h (as in 'killed' in [5]). The shift from *$kɨ > ki$ 'grate' inspired the idea of generating palatalization by a similar shift in the central vowel of the deleted final syllable in *$ôtepɨ > e$, but until we are able to reconstruct a body of examples for both classes, we will be unable to motivate the assignment of different reducing roots to Class II versus Class IV.

2.3. Stress systems

In addition to the contrastive vowel length that is one outcome of syllable reduction, prosodic vowel length is conditioned in many Cariban languages by an iambic foot structure: the vowel of every second light syllable is lengthened, except in the final syllable, where it is never lengthened. The iambic pattern has been described for Kari'nja (Hoff 1968), Hixkaryana (Debryshire 1985), Apalaí (Koehn and Koehn 1986), Waiwai (Hawkins 1999), Tiriyó (Meira 1998), Makushi (Abbott 1991), Pemón (Álvarez 1997), Ye'kwana (Cáceres 2007), and I have recorded it in field transcriptions for the first five and also for Katxúyana. As such, the same iambic pattern occurs in six different groups of the family, making it a strong candidate for reconstruction to Proto-Cariban. An interesting facet of these iambic stress systems is that in most of these languages, the iambs are only useful for predicting secondary stress, which correlates almost solely with vowel length. In contrast, primary stress appears to be based on pitch excursion,[10] which has been claimed to fall on the (never lengthened) final syllable in Hixkaryana, Apalaí, Makushi, and (perhaps) Tiriyó (cf. Hayes [1995] on the typological oddity of this pattern, which leads to difficulty modeling it in his theory of metrical phonology).

In my own experience, primary stress has been difficult to identify in many Cariban languages. There is no shortage of evidence from wordlists, and sometimes from competing linguistic descriptions of the same language, that different individuals perceive stress in different syllables of the same words in the same languages. One might imagine that such confusion could be due to dialectal variation,

but I have also participated in a number of elicitation sessions with multiple linguists, in which different individuals have perceived stress on different syllables of the same word as uttered at the same time by the same speaker. As might be expected given the difficulty identifying it in these languages, stress is rarely contrastive (although see below for interesting exceptions to this claim).

Following Hayes (1995, Ch. 2), it is abundantly clear that stress is not a phonetic feature to be transcribed as readily as point of articulation of a consonant, but rather that stress is a systemic interpretation of prominence, which will be signaled differently in different languages, generally via some combination of vowel length, pitch excursion, intensity (as measured by spectral tilt rather than absolute amplitude), and phonological modification of unstressed vowels and/or pre- or post-stress consonants. Given the typologically unusual nature of primary stress assignment in many Cariban languages, theoretical linguistics would benefit from more detailed studies of the acoustic correlates of primary stress in Cariban languages (as represented in Leahy [2004] and Cáceres [2007]).

In a number of modern languages, the iambic system has been lost: Panare has word-final stress (with certain exceptions, cf. Payne and Payne [1999], illustrated in many examples with unpredictable stress in Mattéi-Muller [1994]), Wayana has been argued to have no primary or secondary stress (cf. the acoustic measurements given in Tavares [2005: 90–98]), and in my own work on Akawaio and Ikpéng, it is clear that the pan-Cariban iambic pattern does not occur (although it is not clear where stress does occur – these are two of the languages for which groups of linguists transcribing simultaneously "perceived stress" on different syllables).

Two interesting deviations on the iambic pattern exist, both representing points of contact in the interface between phonology and morphosyntax. In the first deviation, Kari'nja presents an odd shift of secondary stress to the first syllable of a word as a means of indicating a first person possessor. In (6a), the word *kuri:yara* 'canoe' has a long vowel in the second syllable; but when the second person possessive prefix is added (6b), the long vowel falls in the new second syllable, as well as in the fourth syllable. This illustrates the simple pattern of rhythmic stress. The anomaly comes with the first person possessed form of the word (6c), in which the first and third syllables are long!

(6) Stress-shift as indicator of first person in Kari'nja (Gildea 1998: 106, 259)

a.	*ku.ri:.ya.ra*	'boat'	(. x) . <.>
b.	*a-.ku:.ri.ya:.ra.-rɨ*	'your boat'	(. x)(. x) . <.>
c.	*ku:.ri.ya:.ra.-rɨ*	'my boat'	(x)(. x) . <.>

This first-person "stress shift" in Kari'nja is limited to the lengthening of the initial syllable and every subsequent odd syllable, forming a left-to-right trochaic pattern in (6c) that contrasts with the expected left-to-right iambic pattern seen in (6a) and (6b). The exceptional trochaic pattern is understandable as a consequence of recent loss of the first-person prefix, **u*-, as diagrammed in (7a) and (7b). With the prefix

in place, the pattern was like that in 6a: the syllabic first-person prefix served as the weak syllable of the iamb and the first syllable of the root was lengthened as the head of the iamb (just like the synchronic example of the second-person prefix in [6b]); when speakers stop pronouncing the prefix, they do not immediately adjust the suprasegmental rhythmic pattern to match the new left edge of the word, but rather continue to pronounce the now-initial syllable with prosodic length, as though the length were a part of the segmental representation of the first syllable of the first-person form of the word (7b).

(7) Hypothesized evolution of stress shift in Kari'nja
   a. **u-ku:.ri.ya:.ra-ɾɨ* (. x)(. x) . <.>
   b. *Ø-ku:.ri.ya:.ra-ɾɨ* (x)(. x) . <.>

Although Panare has lost the rhythmic stress system, the leftward shift of primary stress in lieu of a first person prefix could readily be interpreted as an archaic remnant of a system like that in Kari'nja.

(8) Panare (Gildea 1998:110, 259)
   a. *matá* 'shoulder'
   b. *máta-n* 'my shoulder'
   c. *a-matá-n* 'your shoulder'
   d. *yɨ-matá-n* 'his/her shoulder'

In the second deviation, stress appears to be sensitive to three specific two-word constituents: the possessor-possessed, object-verb, and object-postposition units. Throughout the family, each of these three units forms a strong constituent, as seen by: syntagmatic facts such as order inflexibility and the inability to insert other words between the two sub-parts of the constituent; by morphological facts such as the complementary distribution between personal prefixes and a (pro)nominal word dependent, plus the presence (in some languages) of a relational prefix between the two (cf. Gildea 1998: 85–88, 113; Gildea 2000: 74; Meira, Gildea and Hoff 2007); and by prosodic evidence of constituency. In Kari'nja and Panare, precisely the same leftward stress-shift just seen with first person possessors occurs in a head with a preceding NP dependent (Gildea 1998: 106, 110, 259, notes 1–3).[11] In Kuikuro, when two words form a constituent, in the first of the two words, primary stress shifts to the final syllable (Franchetto 1990: 409). In Hixkaryana (Derbyshire 1985: 181), and perhaps in Apalaí (Koehn and Koehn 1986: 122), the two grammatical words form a single phonological word, such that the final syllable of the dependent word and the initial syllable of the head word may form a single prosodic foot together.

This concludes the discussion of phonology *per se*, and opens the door to the discussions of morphosyntax in the following sections.

3. On the absence of the adjective class

It has been a staple of typology since Dixon (1977, 1982) that the adjective class is not universal, with "property concepts" (semantic adjectives) sometimes found in a lexical class of adjectives, but sometimes in other word classes, especially verbs and nouns. Beginning with Derbyshire (1979, 1985), most modern descriptions of Cariban languages (e.g. Koehn and Koehn [1986] for Apalaí; Abbott [1991] for Makushi; Hawkins [1998] for Waiwai; Meira [1999] for Tiriyó; Tavares [2005] for Wayana) have argued that there is no category 'adjective', but rather that property concepts are divided between the lexical categories of 'noun' and 'adverb'. In his introductory article to a more recent book on this topic, Dixon (2006) reverses course, asserting that a word class 'adjective' actually could be identified in every language. Of relevance to the Cariban family, he claims (in §8) that what has been called the 'adverb' class in Hixkaryana and Tiriyó (and by extension, other north Cariban languages) is better labeled an adjective class, and (in §9) that Abbott's Makushi analysis misses two classes of adjectives, one which Abbott calls adverbs and the other 'descriptive nouns'. This section provides a brief synopsis of syntactic constructions via which property concepts are attributed to or predicated of nouns, reviews Dixon's arguments for reanalyzing the Cariban data, and argues that the data available to date better support the authors' original analyses.[12]

Every Cariban language described so far has presented clear morphologically and syntactically defined categories of verb, noun, postposition, and a host of particles and sound symbolic words. Noun and verb are large open classes, with large numbers of underived roots (although see section 5); postpositions, particles and sound symbolic words are relatively large closed classes that are not augmented by productive derivational morphology, nor other means of word-formation or usual lexicalization processes. Alongside these classes is one more lexical category containing semantic adverbs and adjectives; this is a relatively small basic lexical category that becomes an open class through productive derivational morphology. This category occurs readily as the complement of a copula, and as an adverbial modifier to a verbal clause; however, it must be nominalized in order to modify a noun internal to a noun phrase. This is the category that Dixon takes to be 'adjective'. For the purposes of exposition, I follow the authors' original terminology while reviewing and summarizing the semantic and morphosyntactic properties of property concepts.

Property concepts appear to be divided between the lexical categories of adverb and noun. As illustration, consider Meira's (1999) description of property concepts in Tiriyó: " … property concepts like 'big', 'small', 'new', 'old', etc." (Meira 1999: 144) are nouns, whereas "Tiriyó adverbs include most of the concepts which are adjectives and adverbs in European languages, i.e. 'property concepts' (in the sense of Dixon 1977) and 'circumstances' (time: today, later, …; location: here, there, far, …; manner: well, badly, …; etc.)" (Meira 1999: 343). Similarly, Tavares (2005:

132, note 25) asserts: " … meanings typically encoded cross-linguistically by a class of adjectives, are in Wayâna encoded by adverbs (*kawë* 'tall; high', *pëtuku(lu)* 'beautiful, well', *apsik* 'small, a little', etc.) or nouns (*pepta* 'big', *sitpïlï* 'ugly', *ihjan(u)* 'new', *jaime* 'male', etc.)". While offering less detail, Koehn and Koehn (1986: 111, for Apalaí) and Abbott (1991: 129, for Makushi) indicate that nouns and adverbs code the concepts that translate as English adjectives.

Given that there are so few descriptions of the semantic make up of lexical categories in individual Cariban languages, we cannot at this time determine if there are family-wide patterns in which certain semantic subcategories of property concepts align with the syntactic categories of noun or adverb, nor are we in a position to apply many of the subtle tests (such as participation in comparative constructions) advocated by Dixon (2006) that might distinguish the "adjective" subset of either the noun or the adverb categories from the main body of nouns and adverbs.

However, in a way it is relatively unimportant which lexical category a given root falls into, as all adverb roots can readily become noun stems and all nominal roots can readily either become adverb stems or go into a postpositional phrase that would be indistinguishable syntactically from an adverb. This is important to the system of nominal modification because all property concepts must be able to participate in both attributive (*the big man*) and predicative (*the man is big*) constructions, and in Cariban languages, the former requires the property concept to be a noun word, whereas the latter requires it to be an adverb word or adpositional phrase. The most productive adverbializing suffix is the suffix **-pe/*-me*, clearly a phonological reduction of the attributive postposition, attested in most modern languages (and reconstructed to Proto-Cariban in Gildea [1998: 138]); the other most productive adverbializers are circumfixes, in which the prefix **t-* 'Adverbial' (Gildea 1998: 141) combines with one from a set of (probably related) suffixes, **-ke, *-re, *-je, *-ne*, or **-tjô* (reconstructed as **-ce* in Gildea [1998: 141]). Primitive adverbs, postpositions, and adverbs derived from nouns via **-pe/*-me* and **t-N-ke* are nominalized via one of the suffixes **-no* or **-to* (which also condition change of the final vowel of the adverb/postposition from *e* to *a*); the many adverbs derived via the rest of the circumfixes are nominalized via a reflex of the suffix **-mɨ*.

In contrast to the lack of explicitness regarding distribution of semantic concepts, descriptions have generally been quite clear as to the *use* of both adverbial and nominal property terms. In the attributive function, where the property term modifies a referent inside the noun phrase (restricting reference much like a restrictive relative clause, e.g., *The big man just left*), all descriptions either state explicitly (or give only examples consistent with the analysis) that attributive nouns are used to modify head nouns.[13] In contrast, predicates are naturally associated with verbs and adverbials, and as such, it does not seem odd to find that the form of the property term called for by the predicate modifier construction is the adverb/postpositional phrase, especially given that the pan-Cariban copula is an intransitive locative-type verb (derived from a locative verb 'dwell, live at') and thus (at

least in most Cariban languages) requires a non-nominal predicate complement (cf. Álvarez 2000, 2005a, 2005b; Gildea 2005b).[14] The Tiriyó examples in (9–11) come from Meira's (1999) dictionary, illustrating the attributive construction (9a–c), the predicate modifier construction (10a–b), and the use of adverbials to modify verbal predicates (11a–b). In each case, the (a) line illustrates how the lexical noun *mono* 'big, a lot' enters into both constructions, whereas the (b) and (c) lines illustrate the same for lexical adverbs *pija* 'small, a little' and *kawë* 'high, tall'.[15]

(9) Tiriyó attributive modification[16]

[[N_{MOD} N_{HEAD}]$_{POSSR}$ [N]$_{PSSD}$] P]$_{PP}$ cs-Cop

a. *[mono tïpitë] entu =me =n-ai*
big field owner ATTR 3-Cop
's/he owns a big field/garden.' (Meira 1999: 719)
[[[N_{MOD}-DIM N_{HEAD}] P]$_{PP}$ N]$_{VCS}$ [N]$_{VCC}$

b. *[Pija-n-pisi ëkëi]=ja ëëka-to apo-n*
small-NZR-DIMIN snake ERG bite-NZR like-NZR
'it is like the bite of a tiny snake …'. (Meira 1999: 736)
[N_{HEAD} N_{MOD}]$_S$ S-V

c. *[wëri kawë-no]* n-ee-ja-n
woman high-NZR 3-come-T/A-UNCERTAIN
'the tall woman is coming.' (Meira 1999: 746)

(10) Tiriyó predicate modifiers

[[N] P]$_{pp}$=DIM]$_{CC}$ CS-COP

a. *Mono=me =sa ji-w-eh-tuuwë*
big ATTR little.bit 1-S_A -be-AFTER
'After I got a little bit bigger …' (Meira 1999: 736)
[ADV]CC CS-COP

b. *pija =man-a-e*
small 2-Cop-Certain
'You are small.' (Meira 1999: 785)

(11) Tiriyó adverbials modifying a verbal predicate

[N] P]PP A/O-V

a. *Mono=me t-ëewee-ja-e*,
big Attr 1S_A -eat-T/A-Certain
'I am eating a lot.' (Meira 1999: 727)
V ADV

b. *tï-w-ënaanuu-se kawë*,
T/A-S_A -climb-T/A high
'he climbed high.' (Meira 1999: 730)

Dixon's (2006: 28–30) position is that what I have been calling the Cariban adverb class is more felicitously analyzed as an adjective class in which some members have adverb meanings. His arguments against the generally accepted Caribanist analysis are (a) that "Eurocentrism" led Derbyshire and Meira to believe that "words which cannot function as modifier within an NP may appear unadjective like", and (b) that the label "adverb, is scarcely appropriate; an adverb cannot normally occur as copula complement".

In my own re-reading of Derbyshire's (1985: 10–15) exposition of the adverb category in Hixkaryana, I am mystified at the accusation of Eurocentrism – Derbyshire works through both the semantic and syntactic properties of members of the category, then arrives at his label based on (i) predominance of semantic adverbs over semantic adjectives ("all but a few members of this large class pertain to semantic types usually associated with adverbs" [Derbyshire 1985: 13])[17] and (ii) language-internal grammatical parallelism between this category and other adverbials ("their syntactic properties correlate with (modifying or sentence) adverbials" [Derbyshire 1985: 14]). Dixon's second argument is equally unconvincing, since every item on the list of underived forms in this category occurs felicitously as the complement of a copula in the Cariban family, as do the translationally equivalent adverbs/prepositional phrases in English: e.g. 'I am late', 'The game is today', 'That's (only) a little bit!', 'She's not here', 'It's over there', 'That will be later (in the future)', 'It's every day (that we do X)', 'the dance is at night', etc. One wonders which members of this adverb category Dixon finds odd as the complement of a copula, especially in light of his observation further down the page: "It is perhaps not surprising that the Carib adjective class, which functions only as copula complement and as adverb, should include words of place and time which are typically coded as adverbs in other languages" (Dixon 2006: 30).

Derbyshire, Meira, and Abbott independently demonstrate that the syntactic distribution of this category is identical to that of postpositional phrases: they can occur only as copula complements and as adverbial adjuncts to verbal clauses, and they must be nominalized in order to modify nouns internal to the NP. Confirmation of the link between this category and postpositional phrases is the fact that transposition of some nouns to this category is accomplished via lexicalization of the postposition *me/pe 'Attributive' (which becomes affix-like in some cases in Tiriyó and Hixkaryana, and in all cases in Makushi). Typologically, the category of "adverbials" is generally formed by the union of the categories adverb and postpositional phrase, hence the grammatical label 'Adverb' appears syntactically more appropriate than 'Adjective'.

Regarding Dixon's "well-documented instance" of two adjective classes in Makushi, the adjective$_1$ category is the adverb class and the seven-member adjective$_2$ category is the selection of "descriptive nouns" that Abbott (1991: 88) gives as an illustrative list. As already explained, all Cariban languages described to date treat a subset of property concepts as lexical nouns (there are doubtless more than

seven in Makushi as well). These are actually the terms that seem most likely to be identifiable as a separable 'adjective' category in Cariban languages, although as yet no syntactic properties have been identified that allow us to grammatically distinguish descriptive nouns from other nouns: the augmentative and diminutive suffixes occur equally freely on all nouns (meaning, e.g. 'big/small' on concrete nouns and 'more/less' on descriptive nouns) and the comparative construction is the adjunction of a postpositional phrase "more/better than X" to any clause (e.g., 'he is big more than me', 'I am Katxúyana more than him', 'I ate more than him', etc.). In sum, at this point, we still have only semantic criteria to separate this "adjective" category from other nouns. If future research identifies morphosyntactic grounds for calling such nouns "adjective$_2$" in Makushi, then a parallel analysis will likely hold for the cognate category in the rest of the northern Cariban languages.

One hopes that future research will identify and argue for truly distinct adjectival grammatical patterns, so that future uses of the term "adjective" in descriptions and analyses of Cariban languages will be both semantically and morphosyntactically justified.

4. Cariban languages and alignment typology: A plethora of splits

Alignment typology is the categorization of different morphosyntactic patterns by which linguistic systems allow speakers to differentiate who did what to whom. This is primarily accomplished by means of case-marking on NPs (dependent-marking) and cross-referencing on verbs (head-marking), with order of agent and patient playing an important role in some systems. A number of different alignment types have been recognized in the literature, often given different labels and grouped into different macro-categories. For our purposes, the critical types are those identified in Figure 3, plus the inverse alignment, which is not so readily characterized in such a table (cf. Section 4.1.1).

The nominative-accusative and ergative-absolutive types are well-known and (at least as formulated here) uncontroversial. The Split-Intransitive type is well-

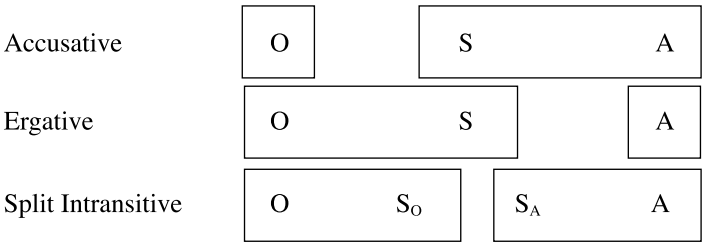

Figure 3. The Cariban alignment types

known, but its categorization is not uncontroversial: some (e.g. Dixon 1994) consider it a subtype of the ergative type, whereas others (e.g. Mithun 1991; Harris 1997; Mithun and Chafe 1999; DeLancey 2003; and Table 3 here) consider it to be distinct from the ergative. The "hierarchical", or "inverse" alignment type is less well-known, and not all typologists even agree that it should be considered a distinctive "type" (cf. Gildea 1994; Zavala [1994] for the position that inverse is alignment; Dixon and Aikhenvald [1997] that it is not; and Zúñiga [2006] for a detailed review of many typological treatments of inverse). The clause types that instantiate each of these alignments are presented in more detail in Section 4.1.

The rest of Section 4 then addresses the question of splits generated by combining these different clause types. Section 4.2 lays out the distribution of each construction identified in Section 4.1, and Section 4.3 shows the impressive range of split alignments into which they combine. As formulated by Dixon (1994), there are four kinds of ergative splits attested typologically, depending on: (i) tense-aspect, (ii) NP status, (iii) semantics of the verb (the Split Intransitive of Table 3), and (iv) main versus subordinate clause status. Dixon explicitly claims (1994: 104) that no single language presents all four types of splits; however, if one were to apply Dixon's methods to these languages, it is possible to identify six Cariban languages with all four types of splits, plus another four Cariban languages with three types of splits.

4.1. A survey of alignments in the Cariban family

This section presents the basic morphological facts associated with each clause type in Cariban, organized according to the alignment pattern presented by that clause type. I begin with the reconstructed Proto-Cariban inverse/split intransitive alignment (4.1.1), followed by the ergative clause types (4.1.2) and the nominative-accusative clause types (4.1.3).

4.1.1. The Proto-Cariban inverse/split intransitive alignment

The main clause inverse/split intransitive is by far the most widespread (and thus extensively documented) of the clause types in the family. In addition to the family-wide survey in Gildea (1998, ch 5), the system is further documented for Tiriyó (Meira 1999; Carlin 2004), Ikpéng (Campetela 1997; Pacheco 2001), Akawaio (Caesar-Fox 2003), Bakairi (Meira 2003b), Waimiri Atroari (Bruno 2003), Wayana (Tavares 2005), and Ye'kwana (Makiritare) (Cáceres and Gildea 2009; Cáceres' Ph.D. thesis in progress). The primary morphological characteristic of this clause type is the cross-referencing on the verb, mainly via the hierarchical personal prefix set (Table 4) and secondarily via collective number suffixes. Constituent order is generally nominative, in that the OV unit is clear (at least when 3A acts on 3O), with A/S either preceding or following the VP (Gildea 2000: 96). There are no auxiliaries and A and O nominals are not case-marked. Table 4

Table 4. Proto-Cariban verbal person-marking (traditional presentation)

	1O	2O	1+2O	3O	S_A
1A	——	*k(ɨ)-	——	*t(i)-	*w(ɨ)-
2A	*k(ɨ)-	——	——	*m(i)-	*m(ɨ)-
1+2A	——	——	——	*kɨt(i)-	*kɨt(ɨ)-
3A	*u(j)-	*ô(j)-	*k(ɨ)-	*n(i)-/*i- *Ø-	*n(ɨ)-/*Ø-
S_O	*u(j)-	*ô(j)-	*k(ɨ)-	*n(i)-/*i-	

presents the Proto-Cariban verbal person-marking prefixes in a more descriptive way (following Derbyshire 1985; Hoff 1995a), simply indicating the prefix for each combination of A and O (inside the box) with S_A in the column to the right and S_O in the row beneath.

This table can be simplified significantly: First, the clutter of parentheses can be removed if we eliminate the *(ɨ)*, which is a predictable epenthetic vowel that occurs between two consonants word-initially, and if we recognize that the *(j)* is actually (at least a reflex of) a separate morpheme, etymologically the relational prefix, whose distribution is also phonologically predictable. Second, seven of the nine cells indicating interactions of SPEECH ACT PARTICIPANT (SAP, that is, first or second person) A and SAP O are not needed, as all are handled by deriving an intransitive reflexive/reciprocal verb (which belongs morphologically to the S_A category). Third, there is almost complete identity between the 3_A and S_O rows, a phenomenon that invites collapse of the two into a single category, O/So. Fourth, an etymological prefix **i-* '3O' can be reconstructed to Pre-Proto-Cariban (cf. Meira, Gildea, and Hoff 2010), and the separation of that prefix from the forms in the 3O column makes them mostly redundant with the S_A column. Finally, the third person forms show two layers, an outer (and therefore presumably more recent) **n-* added to the older **i-* '3O/So' and **Ø-* '3A/Sa'; these older forms make third person, also, fit nicely into the O/So and A/Sa categories, respectively. These simplifications combine to produce the categories in Table 5.

In Table 5, seven of the eight personal prefixes are unified, with a distinction found only between 1A and 1Sa (an exception for which I have no explanation). We must then specify that transitive clauses have three different prefixation strategies: for those clauses with SAP A acting on 3O (the *Direct*), the verb takes both the SAP A prefix and a following **i-* '3O' prefix; for those clauses with 3A acting on SAP O (the *Inverse*), the verb takes only the SAP O prefix;[18] for those clauses with SAP acting on SAP (the *Local*), the verb does not distinguish direction (i.e., 1A2O and 2A1O are both marked with a single prefix). Note that according to this reconstruction, the 3A3O shares properties of both the Direct and the Inverse: like the Inverse paradigm, the verb marks the person of O with no overt mark for

Table 5. Proto-Cariban verbal person-marking (as inverse/split intransitive)

	A/Sa	O/So	1A2O/2A1O	3
1	**t-* **w-*	**u-j-*		
2	**m-*	**ô-j-*		
1+2	**kɨt-*	**k-*	**k-*	
3	**Ø-*	*i-		**n-*

person of A; like the Direct paradigm, the verb bears the 3O prefix *i-*. In a later development (for nearly all conjugations in all modern Cariban languages except Ikpéng), an element **n-* was added to verbs with only third person participants, so that the typical Proto-Cariban 3Sa form became *n-*, and the 3A3O and 3So forms both became *ni-*. In still later developments, some languages have accreted additional morphological elements **kɨ-* and **mə-* to the third person prefixes, adding further to the synchronic complexity (cf. Gildea 1998: 85, 97–99).

Setting aside the split intransitive system for the moment, consider the typological categorization of the pattern of personal prefixation on transitive verbs in this clause type. First, there is a clear hierarchy in play that determines which prefix is placed on the verb: SAP > 3. If only one prefix occurs, it will be the SAP O prefix; in the many modern languages that have lost the reflex of **i* '3O', the SAP A prefix also occurs alone on the verb. In 11 modern Cariban languages, this same hierarchy determines reference of a collective number suffix, which agrees with the collective SAP A or O in preference to 3A or 3O; it agrees with collective 3O only when no SAP participant is available (i.e., in 3A3O clauses, cf. Gildea [1998: 17–18, 99–101]).

The best typological label for the transitive portion of such a system is in dispute, and it is well beyond the scope of this chapter to even acknowledge all the dimensions of this dispute. All typologists recognize hierarchical agreement as being sensitive to at least some portion of the hierarchy attributed originally to Silverstein (1976), which is known variously by such names as the "empathy", "salience", "agentivity", "topicality", and simply "nominal" hierarchy. It should be uncontroversial to call this Cariban agreement system a *hierarchical alignment* type; the label that I prefer, *inverse alignment*, does excite more controversy.[19] In a hierarchical alignment, one might expect the grammar to be sensitive also to a distinction between first and second person (as in the hierarchical agreement systems of Tupí-Guaranían and Tibeto-Burman languages), and also between different categories of third persons (e.g. human > animate > inanimate, as in many inverse systems), but such grammatical gaps are not uncommon in hierarchical systems (cf. Zavala 1994; DeLancey 2001, Zúñiga 2006).[20] However, different typologists disagree on whether hierarchical cross-referencing in the verb even merits differentiation as a distinct alignment type, and if so, whether that type is a sub-component of inversion or whether inversion is a pragmatic extension of that type. As ex-

pounded clearly in Zúñiga (2006: 20–24), some typologists place "Hierarchical Alignment" alongside the standard alignments in Table 4 (e.g., Siewierska 1998; Nichols 1992; Mallinson and Blake 1981), whereas others (e.g., from a structural perspective Dixon and Aikhenvald [1997]; Klaiman 1991; and from a functional perspective, Givón [1994] *inter-alia*) consider direct and inverse to be more closely related to voice. Dixon (1994) treats the nearly isomorphic Tupí-Guaranían hierarchical agreement system as a subtype of person-based split ergativity (this is discussed at greater length in Section 4.3 below). In future research, I hope to address the interesting question of why one might prefer to use the term hierarchical alignment versus inverse alignment, but for now, I will continue my practice (Gildea 1994, 1998: 79–80) of using the latter term.

When considering the intransitive half of the alignment system, one might naturally ask what conditions the assignment of any given intransitive verb to the S_A or S_O categories. Even those who disagree on the typological categorization of split intransitive systems agree that the distinction is usually based on semantics, either of the verb (active/stative) or of the single core argument (agent/patient). In this vein, a number of descriptions from the Cariban family have assumed a semantic basis for the two categories, generally in terms of agentivity (Hall [1988] for De'kwana, Gildea [1995b] for Katxúyana, Camargo [2003] for Wayana). However, as argued compellingly in Meira (2000b), the vast majority of the S_A category in every modern Cariban language is derived (synchronically and/or etymologically) from a transitive verb plus the detransitivizing prefix (reflexive/reciprocal/middle). Different languages have lexicalized such detransitivized stems to varying degrees: in all languages one can readily encounter examples in which the meaning of the derived verb cannot be predicted from the meaning of the transitive verb plus the detransitivizer, cf. the examples in (12).

(12) Some derived intransitive verbs (Meira 2000b: 223)[21]

Tiriyó	*:meneka*	'choose, select'	*ə-meneka*	'look puzzled, amazed'
	uru	'warn, scold'	*ət-uru*	'talk, converse'
Kari'nja	*aro*	'take'	*ot-aro*	'hunt'
	uxku	'try O, aim at O'	*ot-uxku*	'count, draw'
Wayana	*uhmo*	'hit O'	*ət-uhmo*	'fall'
Apalaí	*enetuputɨ*	'believe O, recognize O'	*os-enetuputɨ*	'remember, think'
Makushi	*akama*	'shoot and miss O'	*at-akama*	'dream'
Panare	*apəsi*	'seize O'	*as-apəsi*	'start, turn on, leave, begin'

Further, in some languages, especially Katxúyana and Panare, such complex stems have replaced a substantial number of the etymologically prior intransitive verbs, yielding a surprising phenomenon in which semantically basic intransitive verbs

like ‘dance’ and ‘bleed’ are morphologically complex, derived from semantically more complex transitive verbs like ‘cause to dance’ and ‘draw blood from’ (T. Payne [1990: 434] for Panare, Meira [2000b: 222–225] for several more languages). In many cases also, the etymological transitive verb itself is lost, so that the derived intransitive verb now stands alone semantically. Examples of both phenomena can be seen in (13).

(13) Semantically “basic” derived intransitive verbs (and their transitive sources)

a. **Panare** (T. Payne 1990: 434)[22]

sëwachíka	‘sneeze’	*ëwachíka*	‘make sneeze’
taru’ma	‘swing’	*aru’ma*	‘cause to swing’
tayapa	‘shout, make noise’	*ayapa*	‘make shout’
atachiima	‘dance’	*achiima*	‘cause to dance’
ach-e’pet-	‘dream’	——	
ach-enako’ka	‘wash one’s hands’	——	

b. **Katxúyana** (Meira 2000b: 225)

ot-kamiika	‘bleed’	*kamiika*	‘draw blood from O’
otwenarka	‘vomit’	*wenarka*	‘cause O to vomit’
e-mtaraka	‘yawn’	——	
e-h-ʔ-noh-	‘become ashamed’	——	
e-hoiʔka	‘grow (tree)’	——	

Meira concludes that although the split intransitive system in Cariban languages presents a robust (and reconstructible) morphological pattern, it is semantically anomalous – except for 7 monomorphemic roots (expanded to 10 in Gildea and Payne [2007]), membership in the S_A category of intransitive verbs is an artifact of the reanalysis of reflexive/reciprocal verbs as first middle, then basic intransitive verbs. This leads to a fairly straightforward internal reconstruction of Pre-Proto-Cariban as a language with absolutive cross-referencing on nearly all intransitive verbs (i.e., just the S_O prefixes), and if it were not for the historical fact (accident?) that the reflexive/reciprocal prefix conditions the S_A person-markers, there would be no synchronically interesting split intransitive system today.

To conclude this section, this clause type is by far the oldest in the family, and it thus varies in important details across the 19 languages that present a modern reflex of it. For example, a number of languages have collapsed the two sets of intransitive prefixes into a single set, others have shifted forms around in unpredictable ways, and still others have preserved a system virtually identical to what I have described here (cf. Gildea 1998: 91–96); as such, the modern descendents of this clause type do not all present either split intransitivity or hierarchical agreement (although nearly all have preserved this latter). But in whatever form, the modern reflexes of this system are the common denominator in most of the splits in

the family, expressing the majority of tense-aspect distinctions in most modern languages and serving as one of the contrasting clause types (whether labeled ergative or non-ergative) in the languages that present split ergativity. We turn now to the second most common innovative clause types, those that present ergative case-marking.

4.1.2 The three ergative clause types

Clear ergative patterns are attested in four clause types: across the family, nearly all nominalized subordinate clauses have ergative case-marking on A and absolutive cross-referencing on the verb; in some 10 modern languages, a subset (in some cases, nearly all) of main clauses have the same ergative case-marking on A and absolutive cross-referencing on verbs; in two languages, an ergative construction is attested in which arguments have no case-marking, but the verb bears absolutive cross-referencing while the A is cross-referenced in an auxiliary (when one occurs); finally, in another five or six modern languages, one verb inflection requires the A to bear the ergative case with the absolutive cross-referenced on an optional auxiliary. After observing the reconstructed morphemes in nominalized clauses, we separately consider the three innovative ergative main clauses.

Nominalized subordinate clauses across the family are presented and reconstructed in Gildea (1998, Ch. 7). More recent descriptions have presented surprising new data, in that nominalized subordinate clauses in two Pekodian languages, Ikpéng (Pacheco 2002) and Bakairi (Meira 2003b), have instead the inverse/split intransitive prefixes found in main clauses. This must be due to wholesale extension of main clause argument structure to subordinate clauses, a conclusion strengthened by the fact that (at least some of) the nominalizers are reflexes of Proto-Cariban nominalizers (Gildea 1998: 120), and that the collective marker for these inflections is the one that marks derived nouns rather than finite verbs (cf. Gildea 1998: 117). The absolutive verbal morphology, both personal prefixes/proclitics and number suffixes/enclitics, are presented in Table 6 (from Gildea [1998], as modified by Meira, Gildea and Hoff [2010]).

Table 6. Reconstructed absolutive person and number markers

Absolutive prefixes/proclitics		Absolutive collective suffixes/enclitics	
1	**u-j-*		
2	**ô-j-*	Proto-Cariban	**komo*
3	**i-/Ø-*		
1+2	**k-*	Pemóng Group	**-'nogoŋ*
(3R)	**t-*		

The absolutive prefixes/proclitics are identical to the possessive prefixes/proclitics, as are the number suffixes/enclitics; a comparison of Tables 5 and 6 also reveals that the three SAP forms are identical to the O/S_o verbal prefixes. All these forms have a common morphological origin, the 1st and 2nd person prefixes from formerly free pronouns that joined the 1+2 prefix and and the two 3rd person prefixes to form the verbal series and the possessive series; as laid out in Gildea (1998: Ch. 7, 9–10), the possessive series then went on to become the absolutive series, first in nominalizations (cf. the Kari'ña examples in [14]) and then in main clauses (cf. the Akawaio examples in [15]). Note the alternation between free NP absolutive (15a, d) and personal prefix (15b, e), the behavior that leads to the categorization of these prefixes as syntactically proclitics.

(14) Absolutive prefixes with Kari'ña nominalizations (Hoff 1968: 134–135)[23]

	(S-)arrive	(S-)grow up	(O-)combat	(O-)see
1	Ø-tunda	y-a:tï:ta	Ø-wo:ma	y-e:ne
2	a-tunda	ay-a:tï:ta	a:-wo:ma	ay-e:ne
3	i-tunda	Ø-atï:ta	i:-wo:ma	Ø-e:ne
3R	tï-tunda	t-atï:ta	tï:-wo:ma	t-o:ne
1+2	kï-tunda	k-atï:ta	kï:-wo:ma	k-o:ne

(15) Absolutive proclitics and the number enclitic in Akawaio (Caesar-Fox 2003)[24]

S V

a. *kone'o e' -pödï -'pï*
rabbit be-FREQUENTATIVE-PAST
'Kone'o used to be …'

S=V=S

c. *a-dö-bödï-'pï-gong*
2-go-PAST-PL.ABS
'you-all used to go.'

O=V=A

e. *i-pïrï'sï'ka-Ø=u-ya*
3-detach-PRESENT=1-ERG
'I pulled it out (with one swipe).'

S=V

b. *y- e' -podï -'pï*
3-be-FREQUENTATIVE-PAST
'S/he used to be.'

O V=A

d. *t- are'na pïrï'sï'ka-'pï=i-ya*
3REFL-tail detach-PAST 3-ERG
'He pulled his own tail out.'

O=V=A=O

f. *a-wönö-'pï=i-ya='nogong*
2-hit-PAST=3-ERG=COLLECTIVE
'He hit you-all.'

There is some evidence that the postverbal ergative pronoun in Makushi, Pemón and Kapóng cliticizes to the verb, creating what some have described as ergative suffixes. This began as ergative case marking on free NPs, the topic to which we now turn. Whereas Proto-Cariban main clauses had no case-marking on A, S or O NPs, Proto-Cariban subordinate clauses and two of the three types of modern ergative main clauses mark the A with an ergative suffix/postposition, in the northern languages a modern reflex of the postposition **wïya* 'Allative/Dative/Causee/Agent', and in southern languages Kuikuro and Kalapalo, with *-peke/-heke*, a mod-

Table 7. The ergative case-marker as it occurs on nouns and pronouns

Katxúyana	*wɨya*
Hixkaryana	*wya*
Panare, Tamanaku	*uya*
Pemong Group	*-wya / -ya / -ða / -a*
Kari'na	*'wa / :wa*
Mapoyo	*-wa, -wah, -ya, -a*
Tiriyó/Wayana/Yawarana	*-ya*
Apalai	*-a*

ern reflex of **pôkô* 'on, about, occupied with' (cf. Gildea [1998: 199] for initial cognate sets and reconstruction; cf. Meira and Franchetto [2005: 184] for correctly identifying the Kuikuru/Kalapalo cognate and correcting the reconstructed vowel). Here, I focus on **wɨya*. This form, which is used in so many different constructions with so many different meanings, has undergone idiosyncratic phonological reduction across the family, with only the final vowel attested in all synchronic reflexes (Table 7).

Ergative nouns and free pronouns are always free forms followed by the ergative postposition/enclitic (degree of phonological dependency on the noun or pronoun varies depending on the language and the analyst); in other words, full pronouns are treated just like nouns with regard to case-marking. In contrast, there is also a series of ergative pronouns that is composed (at least etymologically) of the same person prefixes as the absolutive verbal prefixes, except in this case prefixed to the ergative postposition. In those languages that develop main clause ergativity from nominalized subordinate clauses, it is this series of phonologically light ergative pronouns that has cliticized to the right edge of the reanalyzed finite verb. As can be seen in Table 8, some idiosyncratic changes in these first and second person ergative pronouns in the Pemong group correlate with their reanalysis as ergative verbal enclitics. In several languages, the 1+2 prefix has been lost, including as a formative for the ergative pronoun, so the modern 1+2 ergative pronoun is the full free pronoun followed by the ergative postposition/suffix (Gildea [2003b] takes this as a possible shared innovation for a number of Venezuelan languages).

Syntactically, these reduced ergative pronouns only occur immediately after the inflected verb. Interestingly, although the absolutive number enclitic modifies the absolutive argument (bound to the very front of the verb), it *follows* the ergative enclitic (cf. [15f]), further encouraging the analysis that the ergative suffix is becoming part of a single complex of verbal morphology. Additionally, when the ergative suffix follows the Perfect/Past inflection *-sa'* (Makushi)/*-sak* (Akawaio), there is metathesis between the final segment of the inflection (realized as a glottal

Table 8. Variation in ergative pronouns/verbal enclitics in northern Cariban

	1Erg	2Erg	1+2Erg	3Erg
Proto-Carib	**u-wɨya*	**ô-wɨya*	**kɨ-wɨya*	**i-wɨya*
Cariña	*ɨ-'wa*	*a-'wa*	*kɨ-'wa*	*i-'wa*
Tiriyó	*Ø-wɨya*	*əə-ya*	*kɨɨ-ya*	*ii-ya*
Apalaí	*ɨ-a*	*o-a*	*kɨ-a*	*e-a*
Panare	*y-úya, Ø-wɨya*	*oya (< a-uya)*	*yuto uya, yutakon uya*	*ty-úya*
Tamanaku	*Ø-uya*	*a-uya*	*kiwe uya*	*ite-uya*
Mapoyo/Yabarana	*ih-a, wɨh-a wɨrə-ya, urə-ya*	*ər-a, mərе-ya*	——	*ehnə-ya, ti-a, təy-a təwɨ-ya, tawɨ-ya*
Makushi	*=u-ya*	*=Ø-ya*	*-Ø*	*=i-ya*
Pemón	*=Ø-ya*	*=u-ya*	*-Ø=kon (*-ya)*	*=i-ya*
Kapóng	*=u-ya*	*=a-wya*	*urə'nogong-ya*	*=i-ya*

stop in both languages) and the initial vowel (which coincides with the person-marking portion of the ergative pronoun). This is illustrated with Akawaio data (16).

(16) Metathesis involving Akawaio ergative enclitics

a.	/a-kö'ma-sak u-ya/	[agə'mazau'ya]	'I have called you.'
b.	/u-kö'ma-sak i-ya/	[gwə'mazai'ya]	'S/he has called me.'
c.	/i-kö'ma-sak au-ya/	[gyə'maza' awya]	'You have called him/her/it'
		[gyə'mazau'ya]	(homophonous w/ 3a)

The immediate etymology of the ergative postposition/case marker is from the optional agent-phrase as marked in nominalized clauses, and as innovated in adverbialized clauses during the evolution from simple stative forms to eventive passives (cf. Gildea 1997: 185–190). However, case syncretism is extreme with this form, which is also attested to mark a range of oblique functions, including allative, recipient, addressee, and causee (these last three might be argued to be Indirect Objects rather than obliques, but no convincing morphosyntactic evidence has been put forward in a single Cariban language to date that distinguishes any proposed IO from the rest of the obliques). A typologically informed internal reconstruction would suggest the following stages in the evolution that gives rise to such polysemy (all but the third step in the chain, Causee > Agent-Phrase, are well-attested in the literature): **Allative** > **Dative** > **Causee** > **Agent**-Phrase in Nominalizations > **Agent**-Phrase in Passives.

The second ergative clause type, which I call *Nominative-Absolutive*, is attested in only Panare and Katxúyana (in the Cariban family – cf. Gildea and Castro Alves [2010] for description of the pattern also in three Jêan languages). In the

nominative absolutive clause, the verb bears absolutive cross-referencing morphology (and thus is an ergative clause type). However, there is no corresponding ergative case-marked A; instead, the A and S free nouns and pronouns share order properties and are cross-referenced on the auxiliary, when one occurs, thus forming a nominative category alongside the absolutive. These patterns are illustrated via the Panare desiderative in (17) and the Katxúyana imperfective in (18).

(17) Panare desiderative

	s-V	s.Aux	S		
a.	*yutëjtë*	*këj*	*kën*	*karaka*	*pana*
	y-w-të-jtë	këj	kën	karaka	pana
	3S-S_A-go-DESID	3.Cop	3.Anim	Caracas	to

'He wants to go to Caracas.' (Mattéi-Muller 1994: 101)

	o-V	A.AUX	A
b.	*atyajtépe*	*këj*	*kën*
	a-tya-jté-pe	këj	kën
	2O-hear-DESID-TEMP	3.Cop	3.Anim

'He wants to hear you (right now)' (Payne and Payne 1999: 123)

(18) Katxúyana imperfective

	s-V	s-AUX		
a.	*"owohïrkum*	*tahaye*	*etxko,"*	*kamotï*
	o-wï-ohï-rï-kumu	tahaye	etxi-ko	ka-mo-tï
	2-S_A-come-IMPRF.I-COL	always	COP-IMPER	say-DIST.PAST-EVID.HSY

'"Be always coming," he said.' (lit. '$Ø_i$ be always your$_i$ coming')

	o-V	a-Aux
b.	*onooroko*	*ahkïmï*
	Ø-ono-:roko	Ø-ah-kïmï
	3O-eat.meat-IMPRF.T	3A-Cop-Distant.Past

'He was eating it (meat food).'

The Panare nominative-absolutive clause type was originally reconstructed in Gildea (1998: Ch. 10), where it is labeled the "Partial Set II"; the Katxúyana nominative-absolutive is reconstructed in Gildea (1998: Ch. 12), and both reconstructions are revisited in more detail in Gildea and Castro Alves (2009).

We turn now to the fourth ergative clause type in Cariban, what Gildea (1998: Ch. 11) calls the **t-V-ce* clause type. In this clause type, the verb is inflected with the prefix **t-*and the suffix *-*tjô* (newly reconstructed by Meira, Gildea and Hoff [2007], replacing Gildea's [1998] reconstruction as **-ce*); cognate tables for both affixes can be found in Gildea (1998: 141). In Proto-Cariban – and in most modern languages – this combination of affixes derives a participle, a verbal adverb (cf. the discussion on word classes in section 3), available to be used as the complement of

a copula in a stative predicate. As detailed in Gildea (1997), the resultant stative clause (parallel to the English descriptive clause *the window was [already] broken*) was first reanalyzed as an eventive passive (parallel to the eventive reading of English *[just then] the window was broken*). Later, an agent-phrase was added (innovated) to express the source of the action that created said event (a development also parallel to the attested development of the English passive, Givón and Yang [1994]). From this point forward, the construction broke loose from the pragmatic restrictions associated with passive, increasing in frequency and in retention of the agent phrase until it arrived at the point of being a clear main clause perfective aspect/past tense which conditioned ergative argument structure (and, as shown in Carlin [2004], a non-direct evidential value). The intransitive counterpart of the passive construction followed a parallel tense-aspect evolution, resultative > completive > perfective > past, but without the pragmatic complications of the passive > active reanalysis.

Given the origin of this clause type as an analytical passive, the synchronic morphology is unsurprising: the verb bears no person-marking, but only the adverbializing morphology; the A bears the oblique agent *cum* ergative case-marker; and the auxiliary agrees with the unmarked subject of passive *cum* absolutive. These are all illustrated in (19a–d) from Wayana (Tavares 2005: 436–438).[25]

(19) a.

	O	V	A
	jolok	*tëmëipai*	*ejahe*.
	joloko	t-ëmëjpa-he	e-ja-he
	evil.spirit	T-call-HE	3-ERG-COLL

'They called the evil spirit.' (Jolokoa 042)

b.

		V	S
	malonme	*tëwelamaimëi*	*wëlïi*.
	malonme	të-w-e-lama-jmë-he	wëlïhi
	then	T-S_A-DET-turn.O-RESUMPT-HE	woman

'Then, the woman came back.' (Jolokoa 202)

c.

	[ADV]	V	S-AUX
	ulakanumhe	*tïïtëi*	*kunehak*.
	ulakanum-he	tï-w-ïtë-he	kun-eha-kë
	hunt/fish-MOTPURP	PRTCP-S_A-go-PRTCP	3Dpst-be-DPST

'He had gone hunting.'

d.

	O	V	O-AUX	[A ERG]		
	inëlëë	*tëkëtse*	*neha*	*Anakali ja*	*malija ke*.	
	inëlëlë	t-ëkëtï-he	n-eha-Ø	anakali ja	malija ke	
	3ANAPHPRO	T-cut.O-HE	3S_A-be-RECPST	Anakali OBLAGT	knife	INSTR

'It was cut with a knife, it was (by) Anakali.'[26]

This concludes the description and illustration of the ergative clause types in modern Cariban languages. In the next section, we consider the less common nominative-accusative clause types.

4.1.3 The nominative-accusative clause types

Four types of nominative-accusative clauses have been reported in the family, all innovative, one more widespread, the second limited to three languages, the third to two languages, and the fourth (so far) found only in Panare. In all four clause types, there is no case-marking, so the alignment patterns are limited primarily to cross-referencing morphology. In the most widespread clause type (called "Progressive" in Gildea [1998]), the verb bears an accusative prefix/proclitic (identical to the possessive/absolutive prefixes), while the (usually obligatory) copular auxiliary cross-references the nominative. This same grammar also characterizes negative verbal clauses in most languages of the family. In the second clause type, the "Past Habitual", the inflected verb bears O prefixes only, with S/A occurring as free NPs. In the third clause type (called "De-Ergative" in Franchetto [1990]), the verb bears a nominative prefix/proclitic (identical to the possessive/absolutive/accusative prefixes), whereas the auxiliary cross-references the accusative. In the fourth nominative-accusative clause type (called **t-V-ce-mɨ* in Gildea [1998]), the verb bears no cross-referencing morphology and the copular auxiliary cross-references only the nominative. I illustrate only the first three, as this fourth type is found in only one language, and even for that language, it has not yet been thoroughly described.

The "Progressive" clause type is clearly attested in five languages (Apalaí, Panare and all of the Pemón Group, cf. Gildea [1998: Ch. 12]),[27] with at least a progressive/imperfective inflection in each; in Panare there is an additional abilitative inflection, and in Akawaio an additional desiderative inflection. Beyond these more isolated patterns, this is the grammar of verbal negation generally across the family. I illustrate the progressive/desiderative/abilitative subset with the Akawaio desiderative (Caesar-Fox 2003: 116). In (20a), the desiderative transitive verb bears the second person prefix indicating O, while the auxiliary bears the first person prefix indicating A; in (20b), the intransitive verb does not bear a person prefix, whereas the auxiliary bears the third-person prefix indicating S.

				o-V	a-Aux
(20)	a.	*mörau*	*kuru*	*eembai*	*e'aik*
		mörau	kuru	a-ene-bai	Ø-eji-aik
		there	Emph	2-see-Desid	1-be-Pres

'I want to see you there.' (CB Personal Narrative 074)

	V		s-AUX
b.	*enda'nabai*	*ja'*	*ye'tane*
	enda'na-bai	sa'ne	y-eji-dane
	eat-Desid	Emph	3-be-while

'While it wants to eat' (EW Kanaimö 034)

For the negative, examples abound in the grammars, although nearly all descriptions to date have followed Derbyshire's (1985: 46–47) lead in analyzing negative clauses as complex biclausal constructions, in which the negative verb form is not the main verb, but rather a derived adverb which then heads an adverbial phrase that serves as the complement of a copula, that copula being syntactically the main verb.[28] Derbyshire's analysis is represented in the top lines of (21a–b), which present two of his examples of negative sentences from Hixkaryana. By this analysis, there is no monoclausal means to express simple sentential negation.

			[[POSSR/O	V-ADV]$_{ADV}$	s-V$_{INTR}$
			[O	V]	A-AUX
(21)	a.	*oroke*	*Waraka*	*y-onye-hɨra*	*w-eh-xako*
		yesterday	W.	RP-see-NEG	1-be-REC.PAST.COMPLETIVE

'I didn't see Waraka yesterday.' (lit. 'I was without seeing W. yesterday.')

		[V-ADV]$_{ADV}$		s-V$_{INTR}$
		V		s-AUX
	b.	*oroke*	*ɨ-to-hra*	*w-eh-xako*
		yesterday	GEN.PREF-go-NEG	1-be-REC.PAST.COMPLETIVE

'I didn't go yesterday.' (lit. 'I was without going yesterday.')

This negative construction is a paradigm case of a mismatch between the semantic head of the clause and the syntactic head of a predicate, a situation that underlies many of the analytical disagreements that Heine (1993) discusses at length in the introduction to his monograph on auxiliaries, and that are repeated in analytical disagreements of Cariban languages (cf. Álvarez [2005a] and [2005b] for a well-argued example of an analysis opposed to the one I present here). Such a semantics-syntax mismatch is not only an invitation to competing synchronic analyses, but it is also an invitation to speakers to bring the two heads into alignment by reanalyzing the semantic head as the syntactic head and the copula as the auxiliary, something that has clearly happened for the parallel construction in Panare (Payne and Payne 1999), and which I will assert (in passing) is a more functionally sound analysis of negation across the family. A serious comparative study of negation in the family should, among other things, investigate the degree to which the syntactic comportment of the negative verb might present properties more consistent with its functional role as the semantic head of a negative sentence, in addition to the grammar of its unquestioned etymology as an adverbial copular complement. For now, I will maintain that the Negative is an ubiquitous nominative-accusative

clause type in the family, but I will distinguish it from the other nominative-accusative clause types for typological purposes.

Gildea (1998) did not mention the Past Habitual clause type, which was at that time attested only in two Apalaí paradigms and one unparsed example (Koehn and Koehn 1986: 100–102, 105). It has since been robustly attested as the Habitual Past in Tiriyó (Meira 1999: 331–332, 555–556) and it has been partially documented as well in Wayana (Tavares 2005: 237–238, 447–449). In all three languages, the verb bears a reflex of Proto-Cariban *-*tjô* 'Participle' (*-*ce* in Gildea [1998: 141]), then for intransitive verbs there is no person-marking and for transitive verbs, the expected O prefix/proclitic occurs; in none of the three languages is an auxiliary attested. The clearest examples come from Tiriyó (Meira 1999: 332):

			O-V	A	
(22)	a.	*pena*	*ahtao,*	*ji-tuuka-e*	*ëmë*
		long.ago	when	1O-hit-Hab	2
		'Long ago, you used to hit me.'			
			V	S	

b. *pena_marë* koeri_me të-e anja pata wararë
long.ago_too stroll_Attr go-Hab 1+3 village every
'Long ago, we used to go walking around, (to visit) every village.'

In the "De-Ergative" clause type (named after the Kuikúro construction, cf. Franchetto [1990]), the transitive verb bears two prefixes, the first a personal prefix/proclitic indicating the identity of A, the second an invariant prefix **n(ɨ)-*, etymologically an O nominalization marker (cf. Gildea 1994b, 1998: Ch. 7, 11). In Kuikúro there is no auxiliary; in Panare, the auxiliary agrees with O, and an auxiliary is not attested with intransitive verbs in the de-ergative.[29] I illustrate with an example from Kuikúro (Franchetto 1990: 413), in which the O occurs as an unmarked noun sentence-initially, while A is indexed on the verb with the second person prefix.[30]

	O	A-V	
(23)	*akiná*	*e-ŋ-iha-tái*	*u-iña*
	story	2-DERG-show-INTENTIONAL	1-PURPOSE
	'You shall tell the story to me.'		

At this point, all the different clause types have been introduced, allowing us to consider the ways they interact in creating the many alignment splits attested in modern languages.

4.2. Alignment splits in Cariban languages

The concept of split ergativity is well-known in typology, perhaps most famously set forth in the work of Dixon (especially 1979, 1994). In addition to establishing that the norm for ergative alignment is to present one or more splits, Dixon has laid out the typical correlations encountered with each kind of split. For example, in characterizing tense-aspect-based splits: "An ergative system is less likely to be employed when the clause refers to something that has not yet happened (in future tense), or is not complete (imperfective aspect) or did not happen (negative polarity), or where the emphasis is on the agent's role (imperative or hortative moods)" (Dixon 1994: 101). Regarding person-based splits, first and second person are more likely to be nominative as opposed to third person ergative, although the break point may also occur within third person, according to additional factors like definiteness (pronoun > proper noun > common noun) or animacy (human > animate > inanimate), etc. Split intransitive systems (which Dixon considers a subtype of ergative pattern) are generally organized according to the semantics of individual verbs (agentive/eventive as S_A; patientive/stative as S_O), whereas no directional correlations have been observed in splits between main and subordinate clauses.

Before considering the various splits (and their semantic correlations) attested in the Cariban family, it is worth taking a moment to reflect on a point recently raised by Zúñiga (2006: 12): the term "split" implies that there is some fundamental unit that has been divided, whereas in reality, what is happening is that multiple constructions, each with their own separate morphosyntactic properties, are being interleaved into the grammar. This is especially clear for tense-aspect-based "splits", like those we find in the Cariban family, in which different tenses and aspects are expressed by different constructions, each with its own distinct etymology. While one might argue that these constructions combine into a single "splitable" unit, that unit would need to be quite an abstract notion, on the order of "main clause". In particular, there is clearly no single "deep structure" in each language where these constructions are unified, and from which they only "split" out at some more surface level. Rather than a divided whole, main clauses in Cariban languages are more like a patchwork quilt spread over the bed of tense-aspect-mood semantics: in this case, the reconstructible quilt was more unified, with the inverse/split intransitive clause type covering most all the tense-aspect-mood distinctions. Over time, new constructions have been stitched into this quilt, patches made of various kinds of cloth (formal properties), shapes (semantic distinctions), and sizes (number of distinctions); in some cases, the old fabric has been (almost) completely covered over by the new patches.

In the remainder of this section, we will explore the various combinations of old quilt and patches that make up the set of constructions in each modern language, and how those "splits" do and do not meet typological expectations.

4.2.1. The foundational alignment: inverse/split intransitive

The starting point is the inverse/split intransitive clause type, which is used (in various languages) to express tense (past-present-future, past-nonpast, and past only), aspect (imperfective/perfective and perfective only) and mood (realis, epistemic irrealis, optative, and polite imperative). In most cases where this clause type codes more limited tense/aspect/mood distinctions, the distinctions are a function of what semantic distinctions have not been taken over by the innovative patches. As such, the correlations of this alignment type with tense-aspect distinctions are largely epiphenomenal, and thus not a domain in which to seek insightful universal correlations between alignment type and tense-aspect-mood distinctions.

4.2.2. The domains of the ergative clause types

The most richly attested of the patches are the ergative clause types, all four of which are attested in multiple languages. The basic portion of grammar covered by the ergatively-organized nominalizations is subordinate clauses; with the exception of the two Pekodian languages, this pattern is found throughout the family. The set of main clauses derived by reanalysis of nominalizations (Gildea's [1998] Full Set II) presents four basic values in multiple languages: future, nonpast imperfective, past-perfective, and perfect. The nominative-absolutive in Panare occurs with the future, the desiderative, and the nonspecific aspect (a present-tense-like inflection); in Katxúyana it occurs only with the imperfective inflection. For the participle > passive > ergative (**t-V-ce*) main clause, the semantic value is generally past-perfective (although it is apparently unspecified for tense-aspect in Wayana, cf. Tavares [2005: 231–234]).

Table 9 presents, in the leftmost column, the nominalization and the three ergative clause types; in the second column, the tense-aspect distinctions associated with each; and in the remaining columns, a list of the languages in which each combination of construction and tense-aspect is attested. Notable among these is the presence of a future-only ergative distinction in Kari'nja (generating counter-universal correlations), the future/desiderative/imperfective distinctions in Panare and Katxúyana, and the broad expanse of semantic space covered by the Set II ergative clause type in the Pemóng Group languages and Kuikúro/Kalapalo. The existence of so many counter-universal patterns in a single language family should greatly weaken the validity of the claimed universals, and should further stimulate a theoretical discussion about why such patterns should be so common in South America (cf. Gildea and Castro Alves [2010] for parallel counter-universal ergative patterns in Jêan languages).

Table 9. The tense-aspect-mood distinctions coded. by the ergative clause types

Nominalization	SUBORDINATION	all except Bakairi and Ikpéng					
Main (Set II)	FUTURE	Akawaio			Kari'ña	Kuikuro	Kalapalo
	NONPAST-IMPERFECTIVE	Akawaio	Makushi	Pemón		Kuikuro	Kalapalo
	PERFECT	Akawaio	Makushi	Pemón	Panare[a]		
	PAST-PERFECTIVE	Akawaio	Makushi	Pemón	Panare[a]	Kuikúro	Kalapalo
Main	FUTURE				Panare		
(Nom-Abs)	DESIDERATIVE				Panare		
	NONSPECIFIC ASPECT				Panare		
	IMPERFECTIVE						Katxúyana
Main (t-V-ce)	UNKNOWN	Wayana					
	PAST-PERFECTIVE	Apalaí	Tiriyó	Katxúyana	Kari'ña[a]	Kuikúro	Kalapalo

[a.] On transitive verbs, in addition to tense-aspect, these are probably best analyzed as marked voice, either passive or inverse; on intransitive verbs, the simple tense-aspect reading may have an additional modal component (cf. Hoff 2005).

4.2.3. The domains of the accusative clause types

The accusative clause types are distributed according to quite different principles. The "progressive" type is found in five languages marking the progressive/imperfective aspect, with the additional task of marking abilitative in Panare and Desiderative in Akawaio. Although the lack of a careful comparative study of negation prevents strong claims, virtually the same construction arguably characterizes negative clauses in most of the family. These semantic distinctions are expected, correlating accusative clause types with imperfective, the agent-oriented desiderative mood, and negation (cf. Dixon 1994, quoted earlier).

The "Past Habitual" nominative-accusative clause type is so named because it marks only that semantic value in all three languages where it is attested; the imperfective semantic value is expected for the nominative-accusative side of a split, especially alongside an ergative past-perfective.

The "De-Ergative" clause type occurs in pragmatically marked constructions in both Kuikúro (Franchetto 1990: 412) and Panare (Gildea 1998: 193–195): relative clauses, clefts and information questions (questioning O in Kuikúro, A in Panare). In addition, the construction enters in pragmatically unmarked main clause grammar in Kuikuro in the "interactive moods": Intentional, hortative and imperative (this latter with only a specified subset of transitive verbs). Interestingly, in these moods, the de-ergative construction is required for first person singular or inclusive A, optional for first person exclusive and second person A, and

not allowed for third person A. Thus, this accusative clause type in Kuikúro exhibits the intersection of two typological correlations: the shift from the ergative to the accusative clause type occurs precisely "where the emphasis is on the agent's role (imperative or hortative moods)"; and even within these moods, the accusative construction is required only with first person singular/inclusive A, whereas the ergative is required with third person A, and either may be chosen with second person or first person exclusive A.

4.3. Combining the clause types: splits found in individual languages

The previous sections have illustrated the range of clause types found in the family; every modern language in the family has had access to the same set of historical material, meaning that any given individual language could potentially present all of these alignment types simultaneously. Such a language would be exceptional in the list of languages of the world for sheer number of splits attested at any one time. As it turns out, most modern Cariban languages utilize only one or two of these clause types for the vast majority of their main clause predication, and they might present only one or two additional clause types in the remainder of the grammar. Nonetheless, even this degree of diversity is surprising. Table 10 tabulates how the different clause types already exposited are distributed in a selection of modern Cariban languages.

Table 10. Alignment splits in individual languages of the Cariban family

Clause Types	Ap	Kr	Tr	Wy	Kx	Pn	Kp	Pm	Mk	Ku/Ka	Ba	Ik
INVERSE (SET I)	√	√	√	√	√	√	√	√			√	√
SPLIT INTRANSITIVE	√	√	√	√	√	√					√	√
ACCUSATIVE												
• NEG[a]	(√)	(√)	(√)	(√)	(√)	√						
• PROG/DES/AB[a]	√					√	√	(√)	(√)			
• PAST-HAB	√		√	√								
• DE-ERG						√				√		
ERGATIVE												
• SBRD (NZN)	√	√	√	√	√	√	√	√	√	√		
• SET II[a]		√				(√)	√	√	√	√		
• NOM-ABS					√	√						
• *t*-V-*ce* [a]	√	(√)	√	√	√	(√)				√	√	

Ap = Apalaí, Kr = Kari'ña, Tr = Tiriyó/Trio, Wy = Wayana, Kx = Katxúyana, Pn = Panare, Kp = Kapóng, Pm = Pemón, Mk = Makushi, Ku/Ka = Kuikuro/Kalapalo, Ba = Bakairi, Ik = Ikpéng

[a] Parentheses indicate cases where a synchronic monoclausal (re)analysis remains in dispute.

Dixon (1994: 104) asks how many of his four different conditioning factors can operate in a single language: "(1) the semantics of the verb; or (2) the semantics of the core NPs; or (3) tense and/or aspect and/or mood of the clause; or (4) main/subordinate status of the clause." He answers (1994: 106–107) that three is the maximum, giving as examples Georgian (combining 1, 2, and 3) and the Tupí-Guaranían family (combining 1, 2, and 4). Looking more closely at this latter example, we can see that Dixon's type (1) is the Tupí-Guaranían main clause split intransitive system, and type (4) is isomorphic to Cariban. For type (2), the Tupí-Guaranían main clause hierarchical verb agreement pattern must be what Dixon considers to be person-based split ergativity. This pattern is well-documented, in which the transitive verb bears a prefix referring to the SAP, selected from one set when the SAP is A, from a different set when SAP is O, and from a third set when both A and O are SAPs (cf. Jensen [1998: 516, 524] for a comparative treatment, Derbyshire [1987] for the hierarchical analysis of the system, and Payne [1994] for an inverse analysis of the same system). Dixon does not explicitly define hierarchical agreement as a case of ergativity in his earlier section on splits conditioned by the semantics of NPs, although he does (1994: 88) cite Derbyshire (1987) calling the O-marking portion of a hierarchical agreement system "ergative-absolutive", and he also indicates that three languages (Chukchee, Coast Salish, and Chinook) are "split-by-NP-type languages that employ cross-referencing" (1994: 90).[31]

If we depart from Dixon's example of Tupí-Guaranían, rather than the definitions that I employ in this paper, then the Cariban Inverse/Split Intransitive clause type (which is isomorphic to the Tupí-Guaranían system, cf. Gildea [2002b], plus Section 4.1.1) becomes an exemplar of both Dixon's (i) verb-based and his (ii) NP-based split ergativity. The ergative-absolutive clause type in subordinate clauses (also isomorphic to Tupí-Guaranían) constitutes his type (iv). But surely the most striking feature of argument structure in the Cariban family is the multitude of tense-aspect based splits, with splits involving not just the inverse/split-intransitive system, but also the nominative-accusative clause types (especially the negative/progressive) and the ergative-absolutive and nominative-absolutive clause types. As seen in Table 11, using Dixon's categorization, six individual languages of the Cariban family present all four types of split ergativity, and four other languages present three of the four types (Pemón, Kapóng, and Kuikúro combine types 1, 2 and 4; Bakairi presents 1, 2, and 3).

Proto-Cariban seems to have contained the seeds for an extraordinary florescence (in the sense of Chafe [2000]) of alignment patterns in the modern languages of the family. And given that (even) main clause morphosyntax has not yet been comprehensively described for (even) half the family, there are good prospects that the number of modern twists will increase still further over the next 10 years.

Table 11. Split ergativity in individual languages of the Cariban family

Ergative types	Ap	Kr	Tr	Wy	Kx	Pn	Kp	Pm	Ku/Ka	Ba	Mk	Ik
Person-based	√	√	√	√	√	√	√	√	√	√		√
• Hierarchical	·	·	·	·	·	·	·	·		·		·
• De-Erg									·			
Verb-based	√	√	√	√	√	√				√	√	
Tense-Aspect	√	√	√	√	√	√	√	√	√	√	√	
• Ergative	·	·	·	·	·		·	·	·	·	·	
• Accusative	·	·	·	·	·	·	·	·			·	
Subordinate	√	√	√	√	√	√	√	√	√		√	
No. of splits	4	4	4	4	4	4	3	3	3	3	2	2

5. Conclusions and future directions

To this point, I have focused on a subset of issues about which we know a reasonable amount, but about which there had not yet been a synthesis and interpretation of recent scholarship. While there will certainly be reasonable people who disagree with my presentation of at least some aspect of each selected domain in this chapter, none of the scholars who participate in the community of Cariban scholarship will be particularly surprised, either at my formulation of the data and issues, or at their reaction to that formulation. Now we are entering into an exciting decade in Cariban studies, with an increasing number of new field linguists – many South American – helping to expand our cumulative knowledge of the ways that Cariban-speaking peoples communicate. So rather than revisit prior conclusions, I will instead conclude by touching on four topics that seem particularly likely to receive more attention in the next decade.

5.1. Main clause tense-aspect-mood-evidential distinctions

While descriptions of the grammar (especially argument structure) of the various clause types become increasingly robust, descriptions of the subtle semantics associated with each verbal inflection (or inflection plus auxiliary construction) remain rare. Hoff (1986), Carlin (2004), Mattéi-Muller (2007), and Basso (2008) represent examples, as did a number of the presentations on this topic at the 2005 conference *Grammaire de Langues Caribes*. Of current interest are explorations of the extent to which inflections until now described primarily in terms of tense and aspect might turn out to be modal in nature, and also explorations into the semantic details of tense-aspect distinctions guided by instruments such as Dahl's (1985) tense-aspect questionnaire.

5.2. Nonverbal predication and copular clauses

Almost every Cariban language presents clear nonverbal predicates, in which the predicate noun and subject noun are juxtaposed; these constructions are used for permanent identification of individual entities (e.g., 'That's my father'), relatively permanent categorization of subjects into types ('He's a man'), and predication of more permanent attributes ('He's tall'). Nearly every Cariban language also presents one or more verbal copulas, in which the subject noun behaves like any intransitive subject and the complement of the copula is an adverbial or postpositional phrase (cf. the discussion in §3); these constructions are used for the full range of functions described in Payne (1997: Ch. 6), most centrally for locative and existential predicates, but also for predication of temporary attributes ('he's hungry'), qualified identification/categorization ('He's [like] my father [e.g., step-father]', 'A rock can be [like] a hammer'), and possession ('I am bearded [i.e., I have a beard]', 'My beard exists', 'My beard is to/by me'). Innovations in some languages include the reanalysis of demonstrative pronouns as copulas (Panare, Gildea [1993]), the use of copulas with simple nominal predicates and the use of PP/Adv as nonverbal predicates even in the absence of a copula (cf. Table 12; Meira 1999, Pacheco 2005).

Table 12. Nonverbal and copular clause constructions across the Cariban family

Basic constructions		*Innovative constructions*	
Predicate	Subject	Predicate	Subject
NP	NP	PP/Adv	NP
[[NP P]$_{PP}$ Cop]$_{VP}$	**NP**	[NP Cop]$_{VP}$	**NP**
[[Adv]$_{ADV}$ Cop]$_{VP}$	**NP**		

5.3. Verbalization

Among topics to be explored in future meetings of specialists in Cariban languages, one proposal is the degree to which the category of lexical verbs is derived. In exploring the lexicon in Kuikúro, Franchetto and Santos (2003) suggest that the vast majority of verbs, both transitive and intransitive, are derived from nouns by means of a rich set of verbalizing suffixes. Carlin (2004, 2006) suggests some quite specific semantic properties associated with these different suffixes in Trio. In the absence of dictionaries, it is difficult to assess claims regarding the paucity of underived verb roots, but such claims do fit with my own informal observations of the lexicon as collected in various of my field notes. From a comparative perspective, it appears that we can see two major waves of lexicalization in which older generations of verb stems might have been replaced: already by the time of Proto-Cariban, one might

hypothesize that a first wave replaced older inherently verbal roots with new verb stems derived from nouns; then, in a subset of modern languages, older intransitive verb stems are being replaced by detransitivized transitive verbs (cf. Section 4.1.1), as well as innovative verbs derived from ideophones. If these impressions become more firmly established hypotheses (i.e., if they survive the findings of new descriptive and comparative work), then such lexical replacement would lead to difficulties finding long-distance cognates between even reconstructible verbs in Proto-Cariban and potential cognate verbs in other languages of the region.

5.4. Clause combining

Enough descriptions of complex sentences now exist to begin to consider the comparative picture, as well as the potential for contributions to typology. Numerous publications have mentioned the overall prevalence of ergatively-organized nominalizations as the primary means for expressing subordinate clauses. In fact, nominalizations form the basis of all modern Cariban complement clauses, most relative clauses, and (as complements of various postpositions) most adverbial clauses; there are no obligatory pivots with these forms, but coreference with the main clause subject is expressed by the third person reflexive prefix, either in the absolutive slot on the verb or on the ergative postposition. The sole pan-Cariban derived adverb that plays a major role in clause combining is **-tyô* 'Supine (Purpose of Motion)', representing both the sole reconstructible accusative pattern in subordinate clauses, as well as the sole A/S pivot with the main clause subject. Innovations include (i) additions to the set of adverbializing suffixes that behave like **-tjô* (Panare, Payne [1991]; Akawaio, Caesar-Fox [2003]), (ii) finite relative clauses (Pemóng Group, Panare, Tamanaku; cf. Gildea [2003b]), (iii) conjunctions based on nonfinite forms of the copula (Tiriyó, Meira [1999]; Wayana, Tavares [2005]), and (iv) conjunctions based on a pronoun (Akawaio, Gildea and Caesar-Fox [2006]). Both the negative and the desiderative have been presented as nonfinite complements of a main clause copula, but it is not clear to what extent their nonfinite behavior extends beyond this one construction, which might be better analyzed as a monoclausal construction with a nonfinite main (= negative and desiderative) verb and a finite copular auxiliary (cf. Section 4.1.3).

Cariban linguistics has grown exponentially in the last 25 years: from two modern grammars and a handful of articles prior to 1980, we now have available some 13–14 grammatical descriptions of over 100 pages each, some 50 separate articles, and many more graduate students hard at work in South America (especially in Brazil and Venezuela), in Europe, and in the US. As the critical mass of research increases, and the community of researchers continues to communicate about work in progress, prospects are excellent that our vision of Proto-Cariban will continue to improve in both scope and accuracy, and that individual languages of the Cariban family will increasingly contribute to typological and theoretical debates.

Notes

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2 Unfortunately, perhaps due to the certainty with which he presented his conclusions, Durbin's classification remains widely cited when non-specialists mention the family, most unfortunately in the *Ethnologue*, which continues also to cite the archaic names used by Durbin, including placing names (such as Sikiana and Kaxuiâna) that reference the same group into completely different branches of the family.

3 Kaufman (2007) has only a few paragraphs in which he explains the basis of his classification, and he does not menton why he has chosen to abandon the first two branches of his 1994 classification.

4 Girard (1971) is more hopeful, at least for the Kumaná languages; he suggests that the colonial materials are quite rich, and may someday yield many insights – work in progress by José Álvarez of the Universidad de Zúlia may soon begin to offer such insights.

5 The inclusion of Kari'nja in this branch is possible due to the finding in Gildea, Hoff, and Meira (2010: 102–112), that there is attested evidence for a pre-Kari'nja mid-back (possibly mid-central) vowel that corresponds to the mid-central vowels of these other languages.

6 Although additional evidence may come from nonlinguistic studies, such as the genetic study by Salzano et al. (2005) that found connections that supported Rodrigues' proposal, but opposed to those by Greenberg and Loukotka.

7 The variants *wei* and *wej* are orthographic rather than substantive. Since I do not know which is "correct", I offer both.

8 The new forms posited for the PC antecedents to the Kuikuro Perfective and Participle suffixes reflect increased understanding of Proto-Cariban phonology (the Participle is explicitly discussed in Meira, Gildea and Hoff [2010]) and morphology (Gildea [1998] fails to distinguish the possessed and unpossessed forms of the past nominalization as having distinct PC forms, respectively *-*ɨ̰pɨ̰-rɨ̰* and *-*ɨ̰pô*, a distinction that conversations with Roland Hemmauer and Sérgio Meira have recently clarified for me).

9 Santos gives only the examples with the continuative suffix – the examples with the perfective are constructed based on her characterizations of the classes.
10 Hayes' (1995) term for prominent change in pitch, either up or down, depending on the portion of a given prosodic melody that is "docking" on the stressed syllable.
11 I would speculate that this stress shift could provide us with evidence for the recent loss of an older **i-* 'Relational Prefix' on heads, but no other trace has been identified in any modern language of such a syllabic relational prefix. As such, I am forced to admit that such a form, if it ever existed, must be substantially more archaic than the **u-* '1' prefix, which is still attested in several modern languages.
12 For presentation of more detailed data and argumentation, cf. Meira and Gildea (2009); this section represents my own work, written prior to that collaborative article.
13 Note that, at least as traditionally conceptualized, the NP is not an immediately recognizable constituent in Cariban languages. Possessor nouns clearly form two-word syntactic units with their possessed heads, but modifying nouns, adpositional phrases, numerals and demonstratives do not have the kinds of syntagmatic behaviors that would allow us to include them readily as syntactic dependents of the head noun inside a larger constituent (cf. Gildea [1989] and D. Payne [1993] for Panare; Meira [1999: 525–532] for Tiriyó).
14 Dixon (2006: 28) mistakenly asserts that in northern Cariban languages generally nouns may function as copula complement, but in fact, this is a recent innovation attested only in Tiriyó, Makushi, and Ikpéng. Specifically, in Hixkaryana Derbyshire (1985: 31) specifies that the complement of a copula can only be AP or PP, and (1985: 17) that the postposition "*me* 'DENOMINALIZER' has the primary syntactic function of enabling an N(P) to have the grammatical relation of adjunct or complement (of the copula) […]".
15 Abbreviations used in examples in this chapter are: 1, First Person; 1+2, First Person Dual Inclusive; 1+3, First Person Plural Exclusive; 2, Second Person; 3, Third Person; 3ANAPHPRO, 3rd person anaphoric pronoun; 3DPST, Distant Past 3rd person subject; 3REFL, 3 Reflexive; A, transitive Subject; A.NZR, A nominalizer; ANIM, Animate; ATTR, Attributive (sometimes called ESSIVE); CIRC.NZR, Circumstantial Nominalizer; COL, Collective number; COP, Copula; DERG, De-Ergative; DESID, Desiderative; DET, Detransitive; DIM, Diminutive; DIMIN, Diminutive; DIST.PAST, Distant Past; DPST, Distant Past; EMPH, Emphatic; ERG, Ergative; EVID.HSY, Evidential Hearsay; GEN.PREF, Generic Prefix; HAB, Habitual; HE, participial suffix *-he*; IMPER, Imperative; IMPRF.I, Imperfective Intransitive; IMPRF.T, Imperfective Transitive; INSTR, Instrumental; MOD, Modifier; MOT-PURP, Purpose of Motion (also called SUPINE); NEG, Negative; NZR, Nominalizer; O, Transitive Object; OBLAGT, Oblique Agent; PCOLL, Postpositional Collective; PL.ABS, Plural Absolutive; PRES, Present; PRTCP, Participle; PSSD, Possessed; PSSR, Possessor; REC.PAST.COMPLETIVE, Recent Past COmpletive; RECPAST, Recent Past; RESUMPT, resumptive; RP, Relational Prefix (also called Relator); S, Intransitive Subject; S_a, Marker for class of intransitive verbs; T, participial prefix *t-*; T/A, Tense/Aspect; TEMP, Temporary.
16 Tiriyó orthographic symbols have their IPA values, except for *ï* [ɨ], *ë* [ə], and vowel length indicated by doubling the vowel rather than a following colon. Meira indicates clitics by an underscore _, which I convert to the more standard Americanist symbol =.
17 Note that I limit my own arguments to Derbyshire's latter criterion (syntactic properties), as the former criterion (semantic category of the majority of 'basic' members) requires one to enter into a theoretical determination of questionable validity: namely, which members of the category are to be "counted" (e.g., 'basic' versus 'derived', and

by which criteria to determine the distinction in questionable cases); further, it enters into conflict with the syntactic properties when the majority of the category is semantically more adjective-like (which may very well be the case in Tiriyó and Makushi).

18 Of course, this absence of an index of 3A could be merely the surface manifestation of an underlying *Ø-* '3A' prefix. This pattern is identical to that reconstructed for Proto-Tupí-Guaranían (cf. Jensen 1998: 524).

19 I follow Zavala and DeLancey in taking the SAP > 3 distinction to be criterial for identifying the Inverse type. Other definitions are not difficult to encounter, for instance, the definition given in Dixon and Aikhenvald (1997) takes evidence of an animacy hierarchy in 3A3O clauses to be criterial for inverse, which they presumably distinguish from hierarchical alignment. This chapter is not a venue for engaging in typological arguments, but clearly there is much more to be said on this topic.

20 Uniquely in the family, Panare has innovated a hierarchical distinction between 1 and 2, such that 2 > 1 > 3, as the 2A prefix is used for the 2A1O, whereas the 2O prefix is preferentially used for 1A2O (Gildea 1989).

21 As pointed out by Lyle Campbell, it is possible that some of the arbitrariness in these translations might reflect situations in which the Cariban lexical item is semantically broad enough to accommodate multilple translations, but by choosing different 'basic' meanings for the transitive and intransitive members, the original linguist may have obscured the semantic relationship.

22 Panare orthographic symbols have their IPA values except for *ë* = [ə], *ch* = [ʧ], *y* = [j], and ' = [ʔ].

23 Hoff's Kari'ña orthographic symbols have their IPA values except for *ï* = [ɨ], *y* = [j].

24 Akawaio orthographic symbols have their IPA values except for *ï* = [ɨ], *ë* = [ə], *ng* = [ŋ], *y* = [j], *j* = [ʒ] or [ʤ] (in free variation), and *'* = [ʔ].

25 Wayana orthographic symbols have their IPA values except for *ï* = [ɨ], *ë* = [ə], and *l* = [ɾ].

26 Although Tavares (2005) illustrates the copula with its S/O agreement, according to her analysis it is not an auxiliary, as the meaning of the *t-V-he* form *with* the copula seems to belong more to an etymologically prior stage, that of resultative (19c) or stative passive (19d). This information enriches our understanding of the synchronic scenario, but in no way contradicts the overall reconstruction.

27 Gildea (1998: 213–216) includes the Katxúyana Imperfective as an example of the Progressive construction; Gildea and Castro Alves (2010) identify its alignment properties as nominative-absolutive, cf. Section 4.1.2.

28 As pointed out by F. Queixalós in personal communication, a reasonable translation might be 'without V-ing', a literal translation provided for examples (21a–b)

29 In fact, it is not automatic to label this a nominative clause type because (as might be expected, given its source) in Kuikúro it only occurs on transitive verbs, and in my Panare corpus, its occurrence on intransitive verbs is only attested in elicitation with one speaker.

30 The velar nasal in the prefix is the expected Kuikuro reflex of Proto-Cariban **n*, cf. Meira and Franchetto (2005).

31 However, in the immediately following discussion of direct and inverse suffixes in Algonquian (which accompany a clear hierarchical person-marking system), he explicitly states "The Algonquian type of marking is not to be taken as a kind of ergativity" (Dixon 1994: 91; this could easily be a reference to the direction suffixes he has just discussed, rather to than the cross-referencing hierarchy also found in Algonquian (but which he does not discuss explicitly).

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Tupían

Aryon Dall'Igna Rodrigues and Ana Suelly Arruda Câmara Cabral

1. The Tupían Stock: General Overview

As now recognized the Tupían linguistic stock is one of the largest genetic groups of languages in South America. It is very widespread, is strongly differentiated, and comprises ten language families embracing nearly 70 languages. The peoples speaking Tupían languages are typically Amazonian peoples, culturally well adapted to the life in the rain forests of tropical South America. Even though the peoples speaking languages of three branches of one of its families left Amazonia in prehistoric times (cf. Rodrigues 2000) and occupied the southern lands in the basin of the Paraguay river and along the Atlantic sea shore, the speakers of the other branches of this same family and those of the other nine have remained in Amazonia, where their descendants live still today.

The peoples that moved southwards to the Paraguay river basin were the ancestors of the Tupí and Tupinambá, the Karijó or Guaraní, and the Guaráyo. Representatives of these were the first to be contacted by the Europeans at the beginning of the 16th century, when the Portuguese and the French arrived to the Atlantic coast of Brazil and the Spaniards entered both southern Brazil and the mouth of the Paraguay river, since then known as La Plata River.

1.2. Early genetic classification of Tupían languages

The first attempt at classifying the languages of the Tupían stock goes back to the Spanish abbot Lorenzo Hervás y Panduro in his *Catálogo de las lenguas de las naciones conocidas* (1800–1805), in which he recognized the clear relationship among the languages of the Guaraní in Paraguay, those of the Tupí in eastern Brazil, and several others in eastern Amazonia (Pará) and on the upper Amazon (Omagua). This knowledge was further recognized and extended in the 19th century, especially by the Bavarian naturalist Carl F. P. von Martius (1867), who was the first to try to establish a general classification of the indigenous peoples of Brazil. A first comparative work was produced by the French linguist Lucien Adam in his book *Matériaux pour servir à l'établissement de la grammaire comparée des dialectes de la famille linguistique Tupi*, by the end of the 19th century (1896). Since then several revisions of the linguistic classification of the indigenous peoples of South America have been published (Brinton 1891, Ehrenreich 1892 [1981], Chamberlain 1913, Rivet 1924, Schmidt 1926, Loukotka 1935, 1942). A particular advance was Loukotka's revision (1935, 1942), in which he tried to distinguish inside a family lan-

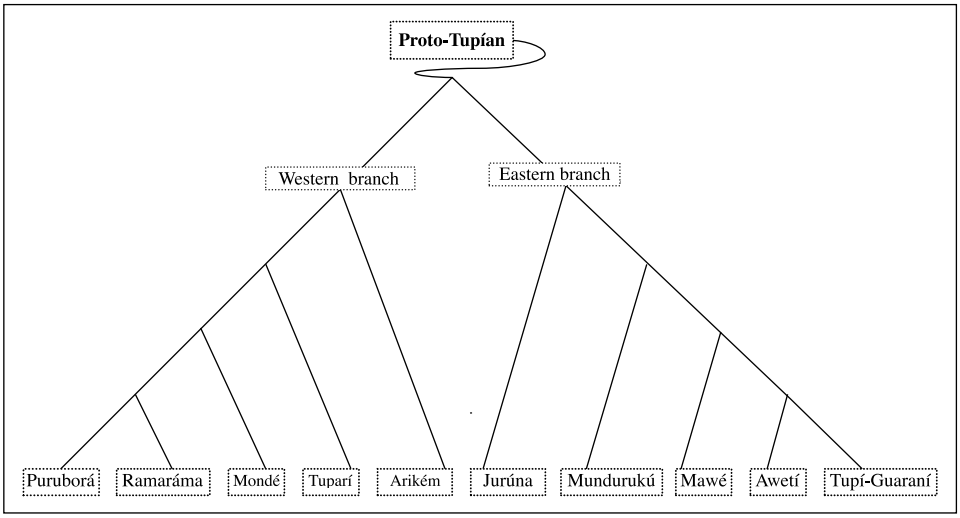
guages clearly akin to one another from "mixed" languages and languages with "traits" or "vestiges" of other families, thereby calling attention to less obvious lexical similarities. Another contribution was the systematic but intentionally restricted comparison of lexicostatistic wordlists based on the identification of cognate "non-cultural" words by Morris Swadesh (1955, 1959; see also Rodrigues 1955).

In 1935 R. F. Mansur Guérios presented a first attempt at a genetic classification of the Tupí-Guaraní languages, by distinguishing a branching of Proto-Tupí-Guaraní into Tupí and Guaraní, each of these branches encompassing several languages. Even though inspired at first in Swadesh's lexicostatistics, Rodrigues presented in 1954 a first genetic proposal for the whole Tupían stock, distinguishing six other linguistic families besides Tupí-Guaraní (Rodrigues 1955), some of which had been identified as cognate also by Swadesh.

1.3. The Tupían stock

The concept of the Tupían linguistic stock[1] as a group of ten genetically related families was put forward by Rodrigues in 1956 (Rodrigues 1958a, b). According to this proposal, which, with a few additions by Rodrigues himself, still stands today (see Tovar 1961, Voegelin and Voegelin 1965, Suárez 1974, Tovar and Larrucea de Tovar 1984, Kaufman 1990, 1994, Campbell 1997), the main constituency of the Tupían linguistic stock may be seen in the family tree diagram in figure 1 and the languages of the ten families listed below, with updatings due to languages that were discovered or documented in the last fifty years and to the now recognized distinction of two main branches, a western one and an eastern one:[2]

Figure 1 Family tree of the Tupian linguistic stock



1.3.1. The languages of the Tupían stock

A. Western families

1. Arikém family
   1.1 †Arikém (Ariquême), BR-Ro
   1.2 †Kabixiána, BR-Ro
   1.3 Karitiána (Caritiana), BR-Ro

2. Mondé family
   2.1 Paitér (Suruí), BR-Ro
   2.2 Cinta-larga, BR-Mt
   2.3 Gavião (Digüt, Ikõrõ), BR-Ro
   2.4 Zoró, BR-Mt
   2.5 !Mondé (Sanamaikã, Salamãi), BR-Ro
   2.6 !Aruá (Aruaxi), BR-Ro

3. Puruborá family
   3.1 !Puruborá (Boruborá), BR-Ro

4. Ramaráma family
   4.1 Káro (Arara, Urukú), BR-Ro
   4.2 †Ramaráma (Itogapúk, Ntogapíd), BR-Ro
   4.3 †Urumí, BR-Ro

5. Tuparí family
   5.1 Tuparí, BR-Ro
   5.2 †Kepkiriwát (Quepiquiriuate), BR, Ro
   5.3 Makuráp (Macurap, Macurape), BR, Ro
   5.4 Mekéns (Mekém, Sakurabiat, Sakyrabiat), BR-Ro
   5.5 !Akuntsú (Akunsú) – BR, Ro
   5.6 †Waratégaya (Amniapé), BR-Ro
   5.7 !Wayoró (Wayurú, Ayurú, Ajurú), BR-Ro

B. Eastern families

6. Awetí family
   6.1 Awetí (Auetö), BR-Mt

7. Jurúna family
   7.1 Jurúna (Yuruna, Yudjá, Djudjá), BR-Mt, Pa
   7.2 †Manitsawá, BR-Mt
   7.3 !Xipáya (Šipaya, Shipaya), BR-Pa

8. Mawé family
   8.1 Mawé (Maué, Sataré, Sateré, Sateré-Mawé), BR-Pa

9. Mundurukú family
   9.1 !Kuruáya (Curuaia), BR-Pa
   9.2 Mundurukú (Mundurucu), BR-Pa

10. Tupí-Guaraní family

Branch 1 (Guaraní branch)

10.1 Guaraní antigo (Guaraní, old Guaraní), BR-Pr, Rs; AR, PA
10.2 Paraguayan Guaraní (Guaraní, Guarani paraguaio, Avañee)), PA, AR, BR, Ms, Pr
10.3 Kaiwá (Kayowá, Kaiowá, Caiová, Caiguá, Pãi, Pãi-Tavyterã), BR-Ms; PA
10.4 Nhandéva (Ñandeva, Chiripá), BR-Ms, Sp, Pr, Es; PA
10.5 !Xetá (Šetá, Aré, Notobotocudo), BR-Pr
10.6 Chiriguano (Ava, Simba), AR, BO, PA
10.7 Isosó (Izozó, Izoceño, Chané), BO, PA
10.8 Tapiete, BO
10.9 Guayakí (Guayaquí, Aché), PA

Branch 2 (Guaráyo branch)

10.10 Guaráyo (Guarayo, Guarayú), BO
10.11 Siriono, BO
10.12 Yúki, BO

Branch 3 (Tupí branch)

10.13 Língua Geral Amazônica (Língua Geral, Nheengatú, Tapïhïya, Tupí moderno, Yeral), BR-Am, CO, VE
10.14 †Língua Geral Paulista (Língua Geral, Tupí), BR-Sp, Mg, Go, Ms
10.15 †Tupí (Tupi antigo), BR-Sp, Rj, Pr
10.16 †Tupinambá (Língua brasílica, Tupí antigo), BR-Rj, Es, Ba, Se, Al, Pe, Pb, Rn, Ce, Ma, Pa

Branch 4 (Tenetehára branch)

10.17 !Avá (Canoeiro, Avá-Canoeiro), BR-Go, To
10.18 Tapirapé, BR-Mt
10.19 Parakanã (Paracanã, Apiteréwa), BR-Pa
10.20 Tocantins Asuriní (Assurini, Asuriní do Tocantins, Asuriní do Trocará, Akwáwa), BR-Pa
10.21 Suruí (Suruí do Tocantins, Aikewara, Mudjetíre), BR-Pa
10.22 Tembé (Tenetehára), BR-Ma, Pa
10.23 Guajajára (Tenetehára), BR-Ma
10.24 †Turiwára, BR-Pa

Branch 5 (Xingu branch)
10.25 Araweté, BR-Pa
10.26 †Amanajé, BR-Pa
10.27 †Ararandewára, BR-Pa
10.28 !Aurê Aurá, BR-Ma (?)
10.29 †Anambé of Cairarí BR-Pa
10.30 Xingu Asuriní (Assurini, Asuriní do Xingu, Asuriní do Coatinema, Awaeté), BR-Pa

Branch 6 (Kawahíb branch)
10.31 Amondáwa, BR-Ro
10.32 Uruewawáu (Uru-eu-wau-wau, Uru-eu-uau-uau), BR-Ro
10.33 !Karipúna BR, Ro
10.34 Piripkúra BR-Mt
10.35 !Diahói (Diahui, Jahoi, Jahui, Diarrui), BR-Am, Ro
10.36 Parintintín (Parintintim, Kagwahív), BR-Am
10.37 Tenharín (Tenharim), BR-Am
10.38 †Tupí-Kawahíb (Tupi do Machado, Paranawát, Pawaté, Wiraféd BR-Ro)
10.39 !Apiaká (Apiacá), BR-Mt !Júma (Yuma), BR-Am
10.40 Kayabí (Caiabi), BR-Mt, Pa

Branch 7 (Kamayurá branch)
10.41 Kamayurá (Kamaiurá, Camaiurá), BR-Mt

Branch 8 (Northern branch)
10.42 †Anambé of Ehrenreich, BR-Pa
10.43 Guajá (Awá, Avá), BR-Ma
10.44 Ka'apór (Urubú, Urubú-Ka'apór, Kaapor), BR-Ma
10.45 †Takunyapé (Taconhapé), BR-Pa
10.46 Wayampí (Oyampi, Wajãpi, Waiãpi), BR-Ap; FG
10.47 Wayampipukú, BR-Ap
10.48 Emérillon (Emerenhão), FG
10.49 Zo'é (Zoé, Jo'é), BR-Pa

1.4. Tupían homeland

As argued in Rodrigues (2007), it is very likely that the speakers of Proto-Tupían have initiated their migrations and diversification in some point of the area between the Guaporé and the Aripuanã rivers, in the basin of the Madeira affluent of the Amazonas stream, an area that corresponds today to the Brazilian state of Rondônia. In this area are found the speakers of five of the ten Tupían linguistic families (the western families) and part of those of the Tupí-Guaraní family (particularly those of the Kawahíb branch of this family). Archaeological research in

this area has been revealing evidence of Tupían occupation of several sites (Miller 2009) by peoples whose pottery is typically Tupían, i.e., it reveals the essential characteristics of the Tupiguarani ceramics of eastern and southern Brazil, but revealing a far greater antiquity – to 5,000 years B.P.

1.4.1. Pre-historic migrations and language diversification

The diversification of a proto-language into the several Kindred languages giving rise to a genetic linguistic family has as its main cause the segmentation of a speech community into two or more groups that, for one reason or another, get separated and develop variant ways of producing and using their language. This is what must be assumed for the people speaking the Proto-Tupían language nearly 5,000 years ago. Successive fragmentations have had as a result several speech communities and successive migrations have separated these farther and farther. Today we recognize ten main Tupían linguistic branches or families, five of them – Arikém, Mondé, Puruborá, Ramaráma, and Tuparí – distributed over the area between the Madeira and Aripuanã rivers in Rondônia. The other five families are associated with longer migrations. Mundurukú, even though with some communities on the middle Madeira river itself, have moved mainly more eastward to the Tapajós river (the Mundurukú language) and a part of them to the Xingú river basin (the Kuruáya language). The Mawé established themselves between the lower Madeira and the lower Tapajós, also to the east of the dispersion center. The members of the Jurúna family, Jurúna (Yurúna) itself and Xipáya (Shipaya), advanced to the Tapajós and Xingú. Further east and southwards live today the Awetí on the upper Xingú River. The longest and most diversified migrations were undertaken by the members of the Tupí-Guaraní family. After taking the eastbound way from the Madeira basin to the Tapajós, some of them went farther to the east across the basin of the Xingu, reaching that of the Tocantins in central Brazil. Some other Tupí-Guaranían groups took a southbound course, displacing themselves to the south, mainly following upwards the Tapajós River and the Arinos rivers, which form the Tapajós, and the Juruena, whose headwaters approach the riverhead of the Paraguay. These groups are the members of the Tupinambá, the Guaráyo, and the Guaraní branches of the Tupí-Guaraní family. It appears to be more likely that the first to engage in this migration to the south were the Tupinambá, who, after having reached the upwaters of the Paraguay River, turned to the east and crossed to the Paraná River, having advanced along one or two of its great tributaries from the east, the Rio Grande and the Tietê (also called Anhembi). Along the valleys of these rivers they reached the Atlantic coast after having traversed the Serra do Mar south of the present-day state of Rio de Janeiro, and progressively occupied the coast that extends to the northeast (at several spots of it they were met by the French and Portuguese in the 16th century and by the Dutch in the 17th century) until its extreme eastern point (in the Brazilian state of Rio Grande do Norte) and from there turned their expansion

to the northwest along the Brazilian states of Ceará, Maranhão, and Pará, thereby reaching the mouth of the Amazon River, where they were met by the Portuguese in the beginning of the 17th century. After the Tupinambá, the Tupí advanced who must have followed mainly the Tietê River, on whose upper course part of them stayed and another part crossed the Serra do Mar to the coast of São Vicente, where the Portuguese established themselves in the first half of the 16th century.

After the Tupinambá and Tupí migrations to the south, another move was undertaken, by the Guaráyo. They have also reached the upper Paraguay River, but while some of their groups have passed to the Paraná River and taken the same course as the Tupinambá and the Tupí (thereby approaching the Atlantic coast either to the north (probably the Temiminõ in the 16th century in southern Espírito Santo) or to the east (probably the Itatín in eastern São Paulo in the 16th century), the majority of them changed their course to the northwest, following most likely the San Miguel River, a left affluent of the Guaporé, along which they came to establish themselves back in Amazonian, now Bolivian territory. The last big migration to the south was the one that took the Guaraní to the Paraguay River, along which one part of them established themselves, but some groups proceeded eastwards, either along the Iguazú or along the Uruguay River, and reached the southern Atlantic coast in present-day Santa Catarina and Rio Grande do Sul, where in the 16th century they were met by the Spaniards, who then called them *Carió* (and the Portuguese had by the same time called them *Carijó*).

Of the Tupí-Guaranían groups that remained in the north (branches 4–8) some stayed closer to their old homeland while others reached very far from there. In the first case are most members of the Kawahíb branch, who have been living in the same area between the Aripuanã and the Guaporé rivers. Those who proceeded farther are the members of the Tenetehára and of the northern branch. Members of the Tenetehára branch crossed to the east the Tapajós, the Xingú, the Tocantins, and went to the Gurupí and beyond, in the present-day state of Maranhão, outside of Amazonia proper (Guajajára, Tembé). Members of the northern branch advanced to the lower Xingú River and from there, at the beginning of the Portuguese colonization, departed to the north, crossing the Amazon and taking the course of the Paru de Leste or of the Jari (Zo'é, Emérillon, and Wayampí), or to the lower Tocantins and more to the east (Amanajé, Anambé, Guajá, Ka'apór, Turiwára). The Kamayurá form an independent branch in the upper Xingu, distinct from the Xingu branch in the middle course of that river.

2. Phonology

2.1. Vowels[3]

As attested by the regular correspondences among the cognate words of the ten families of the Tupían linguistic stock, Proto-Tupían should have had six oral and six nasal vowels (Rodrigues 2005:35–46 and 2007:171):

**i	**ɨ	**u	**ĩ	**ɨ̃	**ũ
**e	**a	**o	**ẽ	**ã	**õ

The six oral vowels were preserved in TG, AW, and MA, with only a partial split of **e*, which has become rounded and has merged with ***o* before the labialized consonants ***p^w* and ***k^w*: ***ep^w* > PTG **-oβ* 'leaf', AW *op*, MA *-op*, but TU Tu, Ak, Me *-ep*, MO Gv *-ep*, Cl *-ép*; ***ek^w* 'house' > PTG **ok* 'actual house', **ok^w-er* 'former house', **ok^w-am* 'future house', AW *ok* 'house', MA *ok* 'nest, thatch', but TU Tu *ek* 'house, nest', RA Ka *ék* 'inside'. In JU and MU ***e* must in a first moment have merged with ***o* in the same environment as in TG, AW, and MA, but in MU it has thereafter undergone the same change (unrounding) that affected ***o*, becoming *ə*: ***ep^w* > **op* > Mu *-əp*, ***ek^w* > **ok* > Mu *ək-ʔa* 'house', whereas in JU this latter change occurred before a back consonant, but not before a front one, where the vowel remained rounded: Ju **ok* > *ak-á* 'house', but Ju **op* > *úp-á* 'leaf'. The western families MO, RA, and PU have lowered their back vowels, changing ***u* into *o* and ***o* into *a*, the latter merging with the reflexes of ***a*, so that they now have only five vowel phonemes, as may be seen in the following examples: ***$k^ʔu$* 'to eat' > MO Gv *ʔo-t* 'eater', RA *ʔo-t* 'eater'; PU *ʔo* 'to eat'; ***po* 'hand' > MO Pa *pá-be*, RA Ka *pa*, PU *ba*; ***tukan* > MO Su *jokáːn-ab*, RA Ka *jokan*, PU *jokan*.

For the nasal vowels there are few examples, but they show that most Proto-Tupían nasal vowels were preserved in the languages of the descendant families. Some clear cases are: ***waʔẽ* 'pot' > TG **jaʔẽ*, AW *taʔẽ*, MA *waʔã*, JU Ju *waʔẽ́*, MU Ku *wáẽ* 'calabash', TU Tu *waʔẽ*, RA Ka *maʔẽ*; ***tãj* 'tooth' > TG **tãj*, AW *tãj*, MA *jãj*, JU Ju *ãj-a*, MU Mu *nəj*, AR Kt *ɲõɲ*, TU Tu *jãj*, MO Ar *jẽj*, RA *jãj*; ***mɨtu* > TG **mɨtu*, AW *mɨtu*, MA *mɨju*, MU Mu *witõ*, Ku *mitu*, AR Kt *misɨ*, TU Mk *mitõ* 'mutum, crax sp.'; ***amõj* 'grandfather' > TG **-amõj*, AW *amuj*, MA *amu*'uncle', JU Xi *amɨ́j*, AR Kt *omɨj*, MO Pa *amõ* 'grandfather', *-móyá* 'grandmother'. As may be seen in these examples, the nasal vowels have in general been subject to the same changes as their corresponding oral vowels. Tuparí, however, has no nasalized high vowels, and this is reflected in, among many others, its word for 'small', *ʔiri*, corresponding to TG **miri* and Káro *merɨ̃́*.

2.2. Consonants

At the present state of the reconstruction of Proto-Tupían (Rodrigues 2007) 27 consonantal proto-phonemes have been proposed, which is more than the phoneme inventory of any single language of the ten families. Even though further work could lightly reduce that number (and this will be done already in this paper, as will be seen further below), it is safer to have to reinterpret some postulated features than to lose them from view in an oversimplified representation. This has to do especially with the glottalized series of stops. The main difficulty for working out the details of the phonological correspondences among the Tupían linguistic families is the lack of dictionaries for the individual languages. The inventory of reconstructed consonants in Rodrigues 2007 is the following:

**p	**pʷ	**t	**tʲ	**c	**č	**k	**kʲ	**kʷ
**pˀ	**pʷˀ	**tˀ		**cˀ	**čˀ	**kˀ	**kʷˀ	**ˀ
**ᵐp						**ᵑk		
**m		**n				**ŋ	**ŋʷ	
**w		**ɾ	**ɾʲ		**j			

2.2.1. The plain velar stop ***k** is well preserved in all ten families: ***kɨt* 'unripe, green' > TG **kɨɾ*; AW *kɨt* 'green, blue', MA *kɨt-ʔi* 'young, green, whitish', JU Ju *a-kɨl-a* 'green', Xi *a-kɨ-a* 'unripe (corn)', MU Mu *kit* 'unripe, green', AR Kt *ket* 'blue', *keɾ-a* 'green', TU Tu *kit* 'young', MO Gv *kiɾ-i* 'immature, green', RA Ka *kit* 'green, yellow, almost ripe', *kiɾ-ik* 'green'; ***tukan* 'toucan, *Rhamphastos toco*' > TG **tukan*, AW *tukan-*, MA *jukan*, MU Ku *tukan*, AR Kt (*ɲeʔo*)*kon*, TU Tu *jõkan*, MO Pa *jokán-ab*, Mo *jukan*, RA Ka *jukan*, PU *jokan*.

2.2.2. The plain bilabial stop ***p** is preserved in most families, but has had different splits in TG, MU, and TU. In Proto-Tupí-Guaraní it was preserved word-initially and word-medially, but at the end of the first member of a compound, before an initial vowel of the second member or followed by a vocalic suffix, it was weakened and became a voiced continuant, merging with **β* (***ʔap* + *un* + *-a* → **ʔaβuna* 'black head hair', ***ʔap-a* → **ʔaβa* 'headhair', **ni-ʔap-i* → *niʔaβi* 'he has no head hair'), and in some languages *β* was analogically extended to absolute final position in free variation with *p* (**i-ʔap* → Tupinambá *iʔap* ~ *iʔaβ* 'he has head hair'). In the Mundurukú family and particularly in its better known language Mundurukú ***p** dropped before front vowels, inclusively *i* < ***ɨ*, but before other vowels it was retained even though submitted to a more general rule of voice alternation due to which it appears sometimes as *p*, sometimes as *b*: ***pe* 'way' > Mu, Ku *e*, ***pɨ* 'foot' > Mu, Ku *i*, ***pɨcɨk* 'to seize' > Mu *išik*, ***epɨ* 'reward' > Mu *ei*, ***pocɨj* 'heavy' > Mu *poši*, ***pap* 'to die' > Mu *a-pap* 'to die many people', ***wup* 'red' > Mu *op* 'ripe'. In the Tuparí family ***p** was retained everywhere, except in the Tuparí language, in which it became *ts* or *s* intervocalically and *s* in-

itially before **i*: ***pap* 'to die' > Tu, Ak, Me *pap*, ***pocɨj* 'heavy' > Tu *poci*, Mk, Wa *poti*, ***ape* 'bark, skin' > Tu, Ma, Wa, Ak, Me, Ke *ape*, ***epɨ* 'reward' > Tu *epsi*, ***pɨ* 'foot' > Ak, Me *pi*, Tu *si-to*, ***pɨpe* 'inside' > Tu *sipe*.

2.2.3. The plain alveolar stop ***t* has changed more than the velar and the labial ones. The only family in which it has undergone no change is Awetí. In the Tupí-Guaraní family the situation of the reflexes of ***t* parallels that of the reflexes of ***p*: it has been preserved word-initially and medially and has become a voiced alveolar continuant *ɾ* under the same conditions as bilabial *β*: ***tãj* 'tooth' > TG **tãj*, AW *tãj*; ***mɨtu*'mutum, *Crax* sp.'> AW *mɨtu*, TG **mɨtu*; ***-et* > AW *-et*, TG **-et ~ -eɾ* 'name', Tb *sét ~ séɾ* '(he) has a name', *séɾa* 'his name'; ***ewit* 'honey' > AW *ekɨt*, TG **eit ~ eiɾ*, Tb *eít ~ eíɾ* 'there is honey', *eíreʔẽ* 'sweet honey', *eíra seʔẽ* 'the honey is sweet'. In the Mawé, Tuparí, Mondé, Ramaráma, and Puruborá families ***t* changed to *j* word initially and was preserved word-finally, but has distinct reflexes word-medially in each family: ***tãj* 'tooth' > MA *jãj*, TU Ak, Ma, Tu *jãj*, MO Ar *jẽj*, Zr *jij,* RA Ka *jãj*; ***tukan* 'toucan, *Rhamphastos toco*' > MA *jukan*, TU Ma *jõkan*, MO Mo, Zr *jukan*, RA Ka *jokan*, PU *jokan*; ***mɨtu*'mutum, *Mitu mitu*' > MA *mɨju*, TU Ma *mitõ*; ***ewit* 'honey' > MA *ewit*, TU Tu, Ke *ewit*, Ak *ekwit*, MO Cl *ivit*, Gv *ît*, RA Ka *pewit*, PU *iwit*. In the Mundurukú family ***t* was preserved in most situations, but was nasalized to *n* at the beginning of monosyllabic words containing a nasal phoneme: ***tãj* 'tooth' > MU Mu *nəj*, ***tuŋ* 'sandflea, *Tunga penetrans*' > MU Mu *nõŋ*. In the Arikém family ***t* at word beginning was preserved only before *i* and before other vowels it changed to *j ~ ɲ*; word-medially it changed to *s*, and word-finally it was preserved, but in the Arikém language it has become a voiced *ɾ* when a suffix beginning with a vowel is added: ***tiŋ* 'timbó, *Tephrosia toxicaria*' > AR Kt *tiŋ*, ***tãj* 'tooth' > AR Kt *ɲõɲ*, ***tuŋ* 'sandflea, *Tunga penetrans*' > AR Am *ɲuŋo*, ***mɨtu*'mutum, *Mitu mitu*' > AR Kt *misɨ*, ***kˀat* 'to fall' > AR Kt *ʔot*, ***ewit* 'honey' > AR Kt *eet* 'bee', *eetese* 'honey', Am *ɛɾɔ* 'bee', *ɛɾɔsɛ* 'honey'.

2.2.4. The alveolar affricate ***c* merged with the stop *t* in AW, MA, AR, MO, and RA, but in JU, MU, and TU this merger was partial, and in TG the affricate articulation was fully maintained: ***cup* 'to see'> TG **cuβ* 'to visit, to find', AW *tup*, MU *ǰo*, AR Kt *tɨp* 'to find', TU Tu, Ma *top*, Me *sob-*, Ak *čop*, RA Ka *tob*; ***pocɨj* 'heavy' > TG **pocij*, AW *potɨj*, MA *potɨj*, JU Ju, Xi *pade-*, MU Mu *pošɨ*, AR Kt *pɨti*, TU Tu *posi*, Ma, Wa *poti*, MO Gv *patî*, Cl *pattíí*, Zr *pati*, Pa *pati-ga*, RA Ka *piʔti*.

2.2.5. The palatal or alveopalatal affricate ***č* has merged with the alveolar affricate ***c* in most families, but there are distinct reflexes of them in TG. For Proto-Tupí-Guaraní **c* and **č* were reconstructed on the basis of the distinction found in the languages of the Guaranían subgroup between *h* or *Ø* as reflexes of **c* and *č* or *s*

as reflexes of *č: **co* 'to go' > TG **co* > Tb *so*, Gy *co*, Ga *ho*, Mb *o*; ***pocɨj* 'heavy' > TG **pocɨj* > Tb *posɨ́j*, Gy *pocɨj*, Ga *pohɨ́j*, Mb *poɨj*; ***čukˀu* 'to bite' > TG **čuˀu* > Tb *suˀú*, Gy *cúu*, Ga *cuˀú*, Mb *čuˀú*; ***čɨ* 'mother' > TG **čɨ* > Tb *sɨ*, Gy *cɨ*, Ga *cɨ*, Mb *čɨ*, ***ačɨ* 'ache' > TG **ačɨ* > Tb *asɨ́*, Gy *ácɨ*, Ga *acɨ́*, Mb *áčɨ*.

2.2.6. The postulation of a palatalized alveolar stop ***tʲ* is due to the occurrence of a retroflex voiced fricative *ʐ* in Awetí contrasting with the other alveolar phonemes of this language and corresponding to the palatalized flap *ɾʲ* in Mawé: ***atʲa* 'fire' > TG **-ata*, AW *-aʐa*, MA *aɾʲa*, MU Mu, Ku *-aša*, AR Kt *iso*; ***wetʲɨk* 'sweet potato' > TG **jetɨk*, AW *teʐɨk*, MU Mu *wešik*, MO Gv *vitíŋ-a*, Zr *wečiŋ-a*, RA Ka *petik-a*, PU *witik-a*.

2.2.7. The reconstruction of a palatalized velar stop ***kʲ* was called for by the correspondence of palatalized and non-palatalized reflexes in some languages in what seems to be the same environments: ***kat* 'thing' > TG **kaɾ-*, AW *kat*, MU Mu *kat*, TU Tu *kat* 'what' and ***kʲap* 'fat' > TG *kaβ-*, AW *kap*, MU Mu *šep*, TU Tu *ap*; ***kɨt* 'unripe' > TG * *kɨɾ-*, AW *kɨt* 'green, blue', MU Mu *kit* 'unripe, green', TU Tu *kit* 'young' and ***kʲet* 'to sleep' > TG **kʲeɾ-*, AW *šet*, MU Mu *šet*, TU Tu *et*. In other families the reflexes of ***kʲ* merged with those of ***k*.

2.2.8. The labialized velar stop ***kʷ* was well preserved in some families and unrounded in others, thereby merging in these with the reflexes of ***k*. In the few reconstructed instances of its occurrence word-finally labialization was lost, but in TG, AW, MA, JU, and MU this unrounding occurred after having affected the vowel *e*, which changed to *o*, as shown above. The labialized bilabial stop ***pʷ*, even though having merged with ***p* in most families, has become **β* in TG and *w* in AW and MA, having rounded a preceding *e* in TG, AW, MU, and MA (in this apparently only in final or stressed syllables): ***epʷa* 'face' > TG **-oβa*, AW *-owa*, MA *-ewa*, MU Mu *d-opa*, Ku *t-upa*, AR Kt *s-ɨpo*, TU Tu *epa* 'eye, light', *epa-psi* 'face'; ***ɨpʷɨ* 'earth' > TG **ɨβɨ*, AW *ɨw-ete*, JU Ju *ɨpɨ*, MU Mu, Ku *ipi*, AR Kt *ʔej-epi*; ***epʷ* 'leaf' > TG **oβ*, AW *op*, MA *-op*, JU Ju *úp-a*, Xi *s-up-á*, MU Mu *-əp*, AR Kt *s-ap*, TU Tu, Ak *-ep*, MO Gv *s-ep*, Cl *s-ép*, PU *t-ap*.

2.2.9. The glottal stop was preserved in all families, but was partially dropped in JU and MU: ***ʔa* 'fruit' > TG **ʔa*, AW *ʔa*, MA *-a*, JU Ju *ʔi-ʔá*, MU Mu, Ku *ʔá*, AR Kt *ʔo*, TU Tu, Ak *ʔa*, MO Gv [*ʔ*]*aá*, RA Ka *ʔa*; ***aʔɨ* 'sloth, *Bradypus sp.*'> TG **aʔɨ*, MU Mu *ai*, AR Kt *oʔi*, RA Ka *aʔi*, PU *aʔi*; ***pɨʔa* 'liver' > TG **pɨʔa*, MA *pɨʔa*, JU Xi *bɨa*, MU Ku *pia*, Mu *psa*, TU Tu *siʔa*, RA Ka *pia*; ***waʔẽ* 'pot', MU Mu *waʔe*, Xi *wáẽ* 'calabash', TU Ak, Me *waʔẽ*, RA Ka *maʔẽ-kaʔ*.

2.2.10. The only case of a glottalized stop attested in a Tupían modern language is *pˀ* in the Tuparí language, in which it occurs between vowels contrasting with plain

p (Caspar and Rodrigues 1957, Alves 1991, 2004). This was the first motivation for looking for other evidences for postulating a series of glottalized phonemes in Proto-Tupían. In the other languages of the Tuparí family the correspondences to *pˀ* are compatible with the admission of ***pˀ* as their source: for Tu *pepˀo* 'wing' we have Me *pebo*, Ak *pebu*, Wa *peo*, from PT ***pepˀo* in contrast with Tu *ɯpek* 'duck', Ak *ɨpek* from ***ɨpek*. In the Jurúna family we have Ju *pewa* 'wing', with *w* contrasting with *b* in *ubiʔá* 'egg' from PT ***upiʔa*. MU has also a voiced reflex of ***pˀ*, as in Mu, Ku *abik* 'sit down' from ***apˀɨk*, Mu *kibit* 'younger sister of a woman' from ***kɨpˀɨʔɨt*, in contrast with the treatment of ***p*, which before the high front vowel *i* (stemming from both ***ɨ* and ***i*) is weakened to Ø, as in *ei* 'retribution' (TG **-epɨ*, AW *epɨ*) from ***epɨ*, *w-eik* 'to avenge' (TG **-epɨk*, MA *w-epɨk*, MO Pa *w-epik*) from ***epɨk*. Between vowels the Tuparí language has merged the reflexes of ***p* and ***pˀ* before the high front vowel (stemming from ***i* and, in part, from ***ɨ*), both changed to *ps* or *s*: Tu *epsi* 'payment' < ***epɨ* , Tu *osiʔa* 'egg' (TG **-upiʔa*) < ***-upiʔa*. At word beginning, however, ***p* and ***pˀ* were kept distinct, since ***p* has changed to *s*, whereas ***pˀ* has become Ø: Tu *siʔo* 'pium, a small mosquito' (TG **piʔu*, AW *piʔu*) < ***piʔu*, but Tu *ɯ* 'to blow' (TG **pɨ*, MA *pɨ-pɨ*) < ***pɨ*.

2.2.11. The glottalized velar stop ***kˀ* was postulated for accounting for the regular correspondence of *k* in the Tuparí family to *ʔ* in all other families. Since in TU there are also *k*'s corresponding to *k* in the other families and in these there are *ʔ*'s corresponding to *ʔ* in TU, we must admit that the reflexes of ***kˀ* merged with those of ***k* in TU and with those of ***ʔ* in the other families: ***kˀɨp* 'tree, wood' > TG **ʔɨβ*, AW *ʔɨp*, MA *ʔɨp*, JU Ju *ʔip-á*, MU Mu, Ku *ʔip*, AR Kt *ʔep*, TU Ak, Ke, Ma, Me *kɨp*, Tu *kɯp*, MO Gv [*ʔ*]*iip*, Pa [*ʔ*]*i:b*, RA Ka *ma-ʔɨp*, PU *mamka-ʔɨp* 'castanha tree'; ***ẽkˀen* 'to vomit' > TG **w-eʔen*, AW *-eʔen*, MA *eʔen*, JU Ju, Xi *en-a-en-a*, TU Tu, Me *ẽken*.

2.2.12. The glottalized alveolar stop and affricate, as well as the glottalized alveopalatal affricate were posited for Proto-Tupían as responsible for some series of correspondences contrasting with those associated with plain *t*, *c*, and *č*. ***tˀ* has been posited for the following reflexes: TG *t*; AW *t*; MA *s-*, *-h-*; MU Mu *d*, Ku *ð*; AR *s*; TU *s-* or *c-*/_–*i*, *#h-*/_V, Ø/V_V; MO Gv, Cl *s*, Pa *l*; RA *j*; PU *j*. Only TG and MA have simply merged *tˀ* with *t*; in the other families the loss of glottalization was associated with other modifications, either affrication and fricativization, or voicing as a stop, a lateral or a continuant (*j*). Most of these reflexes may be seen in the following examples: PT ***tˀap* 'thatch' > TG **taβ* 'village'; AW *tap* 'covering'; MU Mu *da-at* 'temporary shelter'; AR Kt *soʔ-sɨp* 'village'; TU Tu *hap* 'thatch covering', *ha:p* 'home', *hap-* 'to build', Ma *čap* 'village'; MO Gv, Zr *sap*, Cl *sáp*, Pa *lab* 'house'; PT ***tˀa(j)tˀu* 'armadillo' > TG **tatu*; AW *tatu*; MA *sahu*; MU Mu *daidu*, Ku *lajlo/ðajðu*; AR Kt *sosɨ*, Am *tsosjɨ*; TU Ma *tajto*, Me *tato*, Ak

tatu, Wa *ndato*; RA Ka *jájo*; PU *jajɔ*; PT **tˀiŋ* 'smoke' > TG **tiŋ* 'smoke, white'; AW *tiŋ*; MA *hiŋ*; JU Ju *si-a*; MU Mu *diŋ*; AR Kt *ɲiŋ-a*, Am *niŋ-ɔ*; TU Tu *siŋ*, Ma, Ak, Wa *niŋ*; MO Gv *dik*, Pa *ɲiŋ*, Cl *wa-niŋ*.

2.2.13. PT ***cˀ* was tentatively based on the following series of correspondences, for which only three lexical examples were found so far, but these are lacking in the documents on four families (JU, MO, RA, and PU): TG **c*; AW *t*; MA *h*; MU *ǰ*; AR *t*; TU *ʔ*. A little better is the documentation supporting PT ***čˀ*, based on the following series: TG **č*; AW *t*; MA *t*/#_V, *h*/V_V; JU *n*/V^{n}, *h*, *ʔ*/V_V; MU *č*/#_, *t*, *d*/V_V; AR *s*; TU *ʔ*; MO *j*/V_V; RA *š*, *č*; PU *ʔ*. Examples of both series: PT ***acˀem* 'to arrive' > TG **w-acem*, Tb *w-asem*, Ga *βahem*; AW *to-atem*; MU Mu *aǰẽm*; AR Kt *otãm*; PT ***čˀam* 'rope' > TG **čam*, Tb *sam*, Ga *cam*; AW *tam*; JU Ju *i-nãm-á*, Xi *nam-a*; AR Am *som-bu*, Kt *pɨ-som-bɨ* 'bow string'; TU Tu, Ak *ʔam*, Me *am*.

2.2.14. Nasal consonants are reconstructed for Proto-Tupían at the three main points of articulation, bilabial ***m*, alveolar ***n*, and velar ***ŋ*. Before oral vowels not followed by a nasal consonant in the same word their reflexes in some language families are pre-nasalized voiced or voiceless stops (*^{m}b* or *^{m}p*, etc., phonemicized in some languages as a sequence of a nasal vowel and an oral stop)[4]: PT ***memɨt* 'woman's child' > TG **memɨɾ* [me^{m}bɨɾ], AW *mẽpɨt*; MA *mẽpɨt*; JU Ju *mambɨa*, Ku *mabɨa*; TU Ak, Ma *mẽpit*, Me *mepir-*, Wa *mempir*, Tu *memsit*; MO Zr *mãpit*, Gv *mápit* [*mápit*]; PT ***moj* 'snake' > TG **moj* [^{m}boj]; AW *mõj*; MA *moj*; MU Mu *pəj*, Ku *pɨj*; TU Ke *boj*; MO Gv, Zr *baj*, Cl, Pa *maj*; RA Ka *maj-*; PU *maj-u*; PT ***men* 'husband' > TG **men*; AW *men*; JU Ju *mén-á*, Xi *mén-a*; AR Am *man*, Kt *mãn*; TU Ak, Ma, Me, Wa *men*; MO Gv *met* [*mẽnt*], Ar *men*, Zr *met*; RA Ka *mɛ́n*; PU *mɛn*; PT ***mani* 'manioc' > TG **mani*, **mani-ʔok* 'manioc tuber'; AW *mani*; MA *mani*; JU Ju *mai-*, *maj-áká*, Xi *maj-aka*; MU Mu *masək*, Ku *maðɨk* (< **mani(ʔ)ok*); TU Tu *mãj*; MO Pa *mõj*; RA Ka *mani* 'sweet manioc', *mani-nə* 'bitter manioc'; PU *məj-ka*; PT ***aman* 'rain' > TG **aman*; AW *aman*; MA *aman*; JU Ju *amán-á*, Xi *man-á*; TU Ke *aman* 'water'; RA Káro *amãn*; PT ***en* 'you (sg.)' > TG **en-e*; AW *en*; MA *en*; JU Ju, Xi *en-a*; MU Mu *ẽn*, Ku *en*; AR Am *aán*, Kt *ãn*; TU Ak, Tu *en*, *en-e*, Ma, Ke, Wa *en*, Me *ẽn*; ***enup* 'to hear' > TG **-enuβ* [-e^{n}duβ]; AW *-ẽtup*; MA *wan-ẽtup*; JU Ju *ẽdú*, Xi *endu*; MU Mu *a-iǰo*; PT ***ŋaŋ* 'dry' > TG **kaŋ*; MA *ŋaŋ*; AR Kt *ŋõŋ-õɾõŋõ*; MO Zr *kaŋ-am*, Gv *kág-ãã* 'to dry', Pa *kág-ã* 'to thirst'; PT ***ŋɨp* 'louse' > TG **kɨβ*; AW *ʔa-kɨp* 'head-louse'; MA *ŋɨp*; JU Ju, Xi *kɨp-á*; MU Mu, Ku *kip*; AR Am *ŋgeb-ɔ*, Kt *ŋep*; TU Tu *kʉp*, Ak, Me *kɨp*, Ma *ŋɨp*, Wa *a-ŋgɨp*; MO Mo *kiw*, Cl, Zr *ŋit*, Gv *git*; RA Ka *nəp*; PU *a-tɨp*; PT ***tˀiŋ* 'smoke' > TG **tiŋ* 'smoke, white'; AW *tiŋ*; MA *hiŋ*; JU Ju *si-a*; MU Mu *diŋ*; AR Kt *ɲiŋ-a*, Am *niŋ-ɔ*; TU Tu *siŋ*, Ma, Ak, Wa *niŋ*; MO Gv *dik*, Pa *ɲiŋ*, Cl *wa-niŋ*; PT ***ŋam* 'breast': TG **kam*; AW *kam*; MA *nam*; JU Ju *nam-á*; MU Mu *kəm*, Ku *kam*; AR Am *nɔm-ɔ*, Kt *nõm*; TU Ak, Me, Tu *kem*, Ma *ŋem*; MO Pa *nom-a*, Zr *naw-ã*; RA Ka *nãm*, *nãm-ʔa*; PU *nãw-ã*.

2.2.15. The reconstructed glides, labio-velar ****w*** and palatal ****j***, are in complementary distribution, since the latter is reconstructible only for the final position, whereas there is no support for reconstructing ****w*** in this position. Their reflexes in the languages of the several families are distinct phonemes, but in one of them, namely Tupí-Guaraní, the reflex of ****w*** is ***j***, which has merged in complementary distribution with the ***j*** reflex of ****j***. Fronting of ****w*** occurred also in Awetí, but with an obstruent output *t* in complementary distribution with a velar obstruent output *k* (this latter only before unrounded high vowels). Examples of ****w*** reflexes: ****wak*** 'to cry' > TG (cf. ***ja-ceʔõ***); AW *tak*; MA *wak*; JU Ju *i-wák-á* 'sound'; MU (cf. Mu *wa* 'to cry sg.'); AR Kt *hok* 'to play guitar'; TU Tu, Ak *wak-* 'to cry, to play an instrument', Ke *wak-* 'to cry'; MO Gv *vák-*, Pa *wag-á*, Zr *wag-a*; RA Ka *wét*; ****wup*** 'red' > TG ***juβ*** 'yellow'; AW *tuw-* 'yellow, orange'; MA *hup*; JU Xi *úp-a* 'ripe'; MU Mu *op* 'ripe'; TU Ma *wop*, Me *kop*, Ak *kup*, Wa *ŋkup*; MO Gv *vóóp*, Cl *oóp* 'red', *op-ɨɨt* 'yellow', Paitér *ób* 'red, ripe', Mondé *up*, Aruá *wup*; RA Ka *úp* 'red, ripe'; PU ***wɨb*** 'red'. Examples of ****j***: ****uwaj*** 'tail' > TG ***uwaj***; AW *-uwaj*; MA *-uwaj-po*; MU Mu *oaj-bə*; AR (cf. Kt *s-ɨpoj*); TU Ma, Tu *-owaj*, Ak *-ukwaj*, Me, Wa *okwaj*; ****moj*** 'snake' > TG ***moj***; AW *mõj*; MA *moj*; MU Mu *pəj*, Ku *pɨj*; TU Ke *boj*; MO Gv, Zr *baj*, Cl *maj*, Pa *maj-*; RA Ka *maj-*; PU *moj-u*; ****pocɨj*** 'heavy' > TG ***pocɨj***; AW *potɨj*; MA *potɨj*; JU Ju, Xi *pade-tú*, *pade-tá* 'weight'; MU Mu *pošɨ*; AR Kt *pɨti*; TU Tu *posi*, Ma, Wa *poti*; MO Gv *patîɨ*, Cl *pattîɨ*, Zr *pati*, Pa *pati-ga*; RA Ka *piʔti*.

2.2.16. In the Tuparí family the Mequéns language has k^w as the reflex of PT ****w***, whereas the other languages of the same family have *w*, the same as in all other families, with the only exception of Tupí-Guaraní, which changed ****w*** into ***j***, and Awetí, which changed it into *t* and *k*, as just mentioned above. The Mequéns reflex has induced Moore and Galúcio (1993) to posit a proto-phoneme $*k^w$ in their essay of reconstruction of a Proto-Tuparí, thereby seeing all the other Tuparí languages as having simplified the articulation of k^w into *w*. The same reasoning would appear to be appropriate in the reconstruction of Proto-Tupían on the basis of the reflex k^w in Mequéns and the partial reflex *k* in Awetí. At least at the present state of the reconstructive work towards Proto-Tupí there is, however, a strong counter-indication to this, namely the presence of k^w or *kw* in both Tupí-Guaraní and Awetí. The comparison of TG and AW words with their most probable cognates in other families, inclusive in Tuparí, asks for the reconstruction of a $**k^w$ in Proto-Tupí, which was in opposition to the Proto-Tupí ****w***, source of *w* in most languages, inclusive of the Tuparí family, and also of Mekéns k^w. See, for instance, PT $**k^wat$ 'hole' (> TG $*k^waɾ$, AW *kwat*; JU *kuá*) as opposed to PT ****wat*** 'to go (pl.)' (> MA *wat*, MU Mundurukú *-wat*; AR Kt *hot*; TU Ak, Tu *wat*); PT $**ek^wat$ 'village center' (TG *okaɾ*; AR Kt *akot* 'together', *ako* 'meeting place'; TU Me ek^wat 'village center') as opposed to PT ****awa/awai*** 'yams' (> MA *awai-ʔa*, JU Jurúna *awa-ʔá*; MU Mu *awaj*, Ku *awai*; AR Am *ɔhɔ*; TU Ke *awa*, Tu *awa-te*, Wa *awa* 'small yams', Me ak^wa).

2.2.17. Two alveolar flaps, a simple one **ɾ and a palatalized one **ɾʲ, were proposed for Proto-Tupían, in order to account for distinct reflexes in some language families, especially the retroflex fricative ʐ in Awetí: PT **aɾat 'macaw' > TG *aɾaɾ; AW *aɾaɾ-an* 'blue m.'; JU Xi *alal-i*; AR Am *oɾo-to* 'yellow m.'; TU Tu *aɾa-taʔa* 'blue m.', Ma *aɾa-ta* '*Ara ararauna*'; RA Ka *aɾa-pa* 'red m.'; PT **awuɾu/awoɾo* 'parrot' > TG **ajuɾu*; MA *ahut*; MU Ku *aɾu*, Mu *aro*; TU Tu *aoɾo*; MO Pa *awára*, Cl *awaláp*, Gv *awálap*, Zr *awalap*; RA Ka *aóɾo*, Ur *aoɾo*; PT **peɾʲep* 'wound' > TG **peɾeβ*; AW *peʐep*; MU Mu *eɾep* 'fowl', *i-eɾep-at* 'rotten person, leper'; TU Tu *poɾap* 'wound', *paɾap* 'cicatrix'; PT **oɾʲe/oɾʲo* 'I and you' > TG **oɾe*, *oɾo-*; AW *oʐo-*; MA *uɾu-*; JU Ju *udi*, *ulu-*, Xi *ude*, *udɨ*; MU Mu *oče*, Ku *ute*; AR Kt *ɨta*; TU Tu *ote*, Ak *ute*, Ma *te*; MO Gv *tó-*, Pa *tój*; RA Ka *té*; PT **eɾʲe-/eɾʲo-* causative-comitative prefix > TG **eɾo-*, AW *eʐo-*; MA *e|e-*, MU Mu *ɨǰɨ-*, Ku *ud-*; TU Ma, Tu *ete-*; RA Ka *ta* (in view of these examples the following series of cognates is somewhat problematic: PT **ɨɾɨpʷʔu* 'vulture' > TG **ɨɾɨβu* (Tb *uɾuβú*, Gp *ɨɾɨvu*); AW *ɨʐɨwu*; MA *uɾuwu*; MU Mu *oɾopo*, Ku *uɾupu*; TU Tu *oɾopʔo*). As a closer examination of these and other sets of cognate words reveals, the occurrence of AW ʐ is not yet very clear, since in some instances it corresponds to MU *č/ǰ* and TU *t*, but in other instances its counterpart is *ɾ* in MU and in TU. It is possible that a better interpretation of the facts will appear when a wider documentation of Awetí and the languages of other families will be gathered and made available for comparative research. Meanwhile it seems to be preferable to maintain a more conservative attitude, which does not precipitately lumps together situations that are not yet well defined.

3. Morphosyntax

3.1. Typological grammatical overview

Tupían languages have about 10 classes of stems, two of which are open classes – nouns and verbs. Adjective is a function fulfilled by nouns and intransitive verbs in most families, but a class of adjectives is reported for a few languages. The other stem classes are postpositions, deictic expressions – personal pronouns and spatial and temporal deictics –, as well as aspectual, modal, ideophonic, and interjective words (these latter four are particles).

Tupían languages vary from weakly (Jurúna family) to rather elaborately agglutinative morphology (Awetí and conservative Tupí-Guaraní languages such as Tupinambá, Old Guaraní, and Tocantins Asuriní) and display a low degree of fusion if any. Word formation processes involve derivation, composition, inflection, and reduplication. There are three inflectible classes of stems – noun, verb, and postposition –, which share the same set of relational prefixes in languages of the Tuparí, Mawé, Mundurukú, and Tupí-Guaraní families. Verbal morphology

consists of personal, valence changing, and aspectual affixes, whereas nominal morphology distinguishes case and aspectual categories.

Core argument cross-reference in transitive verbs is expressed either by inflectional morphology or by clitics and is restricted to one personal form, codifying either the subject or the object. Relational prefixes, nominal case markers, some modal and negation markers are expressed by inflectional morphology in most Tupían families, whereas valency changing affixes and aspectual markers (verbal or nominal) are derivational morphemes across the majority of the families. Personal markers are either proclitics or prefixes, valence changing affixes – causative and reflexive/reciprocal – are all prefixes, while negation, modal and some aspectual markers are suffixes. Of the noun building morphemes reconstructible for Proto-Tupían one is a prefix, all others are suffixes. Most of the families have more than one causative morpheme, and at least two families have three.

Tupían languages have few cases of paradigmatic suppletion, usually distinguishing singular versus plural S and O arguments in positional verbs (Mundurukú, Tupí-Guaraní, Tuparí, and Mawé families), but in motion verbs suppletion is also conditioned by mood (Tupí-Guaraní).

Word order in the majority of the Tupí languages is as follows: object + verb, possessor + possessed, noun + adjective, determiner + postposition. Tupí languages are head final: dependent clauses precede main clauses, complement NPs precede the verb, subordinate clauses precede subordinating ones, and complement verbs precede main verbs.

In transitive clauses basic core arguments are distributed in most families in AOV (SOV) word order, with a few languages displaying other varieties of basic word order. In intransitive clauses the verb may precede or follow the subject in the majority of families (VS or SV).

3.2. Proto-Tupían parts of speech

Based on data from nine of the ten Tupían linguistic families, two open word classes may be postulated for Proto-Tupían according to morphological, syntactic, and semantic criteria: a class of nouns and a class of verbs. On semantic grounds, Proto-Tupían verbs would have encoded processes, while nouns would have encoded entities – concrete as well as abstract (such as sensation, feeling, dimension, color, and texture). Postpositions, nouns and verbs are the inflected roots in Tupian languages. The other word classes are made up of invariable elements or particles.

Nouns in Proto-Tupían would have referred two types of entities, the autonomous entities as main constituents of the world and the dependent entities as parts or attributes of the autonomous ones. This Proto-Tupían cognitive view of the world's organization is still formally distinguishable by morphosyntactic or syntactic devices in the nine Tupían best documented families. Autonomous entities are human beings ('person', 'old.person', 'young.person', 'male', 'female', 'people'),

animals and plants (generic and individuated), as well as elements of the nature (water, sky, star, hill, stone, etc.). Dependent entities are parts or attributes of autonomous entities or of other dependent entities (parts of the human or animal body, parts of the plants and of inanimate objects, sensations, feelings, and moral and physical attributes of persons and things).

3.2.1. A sample of reconstructed PT independent nouns

human beings: ***ap^{w}ũ* 'person'/'who', ***aɨče* 'man', ***pet* 'woman', ***or^{j}e* 'we, I and he/they', ***ru* 'fellow'

animals: ***ɨčɨ* 'deer', ***ameko* 'jaguar', ***aʔɨ* 'sloth', ***awuru/aworo* 'parrot', ***arat* 'macaw', ***moj* 'snake', ***ɨp* 'fish', ***enem* 'beetle', ***ŋap* 'wasp'

plants: ***mani* 'manioc', ***awa/awai* 'yams'; ***ɨčɨpo* 'vine', ***k^{ʔ}ɨp* 'tree, wood', ***kɨče* 'bamboo', ***ɨʔa* 'calabash', ***wet^{j}ɨk* 'sweet potato'

nature: ***ŋ^{w}at* 'sun', ***watɨ* 'moon', ***ɨp^{w}ɨ* 'earth', ***aman* 'rain', ***ič^{ʔ}ɨ* 'river', ***wita* 'stone', ***ʔat* 'day'

3.2.2. A sample of reconstructed PT dependent nouns

kinship: ***amõj* 'grandfather', ***up* 'father', ***čɨ* 'mother', ***aʔɨt* 'son of a man', ***ɨket* 'older sister of a woman', ***kɨp^{w}ɨt* 'brother of a woman'

parts of the body of animals: ***po* 'hand', ***ʔa* 'head', ***ap* 'hair', ***apɨ* 'ear', ***pep^{ʔ}o* 'wing', ***uwaj* 'tail', ***kaŋ* 'bone'

parts of plants: ***ep^{w}* 'leaf', ***akã* 'branch', ***pot^{ʔ}ɨt* 'flower', ***wu* 'thorn'

artifacts: ***ekw^{ʔ}ɨp* 'arrow', ***wɨ* 'ax', ***ɨr^{j}u* 'basket', ***waʔẽ* 'pot', ***č^{ʔ}am* 'rope', ***at^{j}a* 'fire', ***ek^{w}* 'house', ***moʔɨt* 'necklace'

sensations, feelings, and attributes: ***ačɨ* 'ache', ***ak^{j}up* 'warm', ***ečaraj* 'forgetful', ***pocɨj* 'heavy', ***ac^{ʔ}aŋ* 'thick'

3.3. Proto-Tupían inflectional nominal morphology

Languages of four oriental Tupían branches, MU, MA, AW, and TG, as well as languages of one occidental branch, TU, have a set of inflectional prefixes, labeled 'relational prefixes' by Rodrigues, as their function is to mark on a dependent stem the syntactic contiguity (+/-contiguous) of its determiner and its dependency relations. Three relational prefixes are reconstructed for PT: ***t^{ʔ}- ∞ Ø-* (R^1-), ***i-* ~ ***c-* (R^2-), ***m-* ∞ ***Ø–* ∞ ~ ***t-* (R^4). The R^1- prefix signals in a stem that it forms a syntactic unity with its determiner, which is the immediately preceding expression. The R^2- relational prefix signals that a stem determiner, which is different from the speaker and the hearer, does not form with it a syntactic unity, and the relational prefix R^4- signals in a dependent stem that its determiner is generic and human. Awetí and PTG have developed a co-referential relational prefix *o-*, which

signals that the determiner of a noun is co-referent with the subject of the main clause (this has been represented by R^3-).

The distribution of Tupían noun stems with the allomorphs of PT R^1- prefix is the basis for postulating the formal division of two thematic classes of noun stems for PT: Class I and Classe II. Both classes are further divided into subclasses according to the combination of their stems with the allomorphs of the relational prefixes R^2- and R^4- (cf. Rodrigues 1981). Deviations of Tupían languages from this pattern are due to changes moving a lexical stem from one class to another, to the creation of new thematic classes or sub-classes, and to the fusion of thematic classes and/or subclasses, all of these mainly motivated by phonological changes (merger and erosion of their reflexes of PT sounds), as well as by morphosyntactic restructuring. The distribution of relational prefixes in languages of different families is illustrated below:

Two languages of the Tuparí family, Makuráp (Braga 2005) and Tuparí (Alves 2002) have reflexes of PT relational prefixes in nouns as well as in verbs.

3.3.1. Makuráp relational prefixes

Table 1 Makuráp relational prefixes (adapted from Braga 2005)

		R^1	R^2
Class I	a)	Ø-	y-
	b)	Ø-	Ø-
Class II		tʃ- [~ j-]	t-

The following Makuráp examples show the combination of the allomorphs of R^1- and R^2- with a stem from class II:

(1a) *Mario* xeget tuknga
Mário tʃ-ek-et tuk-ng-a
Mário R^1-house-GEN build- EF-IMP
'they have built Mário's house

(1b) *Mario* teget tuknga
Mário t-ek-et tuk-ng-a
Mário R^2-house-GEN build-EF-IMP
'Mário has built his (somebody else's) house'

The Tuparí language is somewhat divergent in that the alomoph *i-* of the R^2- prefix combines also with some stems whose cognates across other Tupí languages combine with the reflexes of PT ***c-* (*s-* in Tuparí), as in the case of *-ep* 'leaf' and *-a:pe* 'path' bellow.

3.3.2. *Tuparí relational prefixes*

Table 2 Tuparí relational prefixes

	R1	R2
Class I	Ø-	s-
Class II	Ø-	i-
Class III	h-	i-

(2a) koepa Ø-epa
moon R1-olho
'eyes of the moon'

(2b) s-epa
R2-olho
'someone's eyes' (Alves 2004)

(3a) Pabit Ø-a:pé
Pabit R1-path
'path of Pabit'

3b) i-a:pé
R2-path
'someone's path' (Alves 2004)

(4a) Kɨp h-ep
tree R1-leaf
'leaf of the tree'

(4b) i-ep
R2-leaf
'a plant leaf' (Alves 2004)

In Mawé the relational prefixes combine with nouns as well as with transitive verbs, a combination also characterizing the relational prefixes distribution in Mundurukú, Tuparí, and Makuráp, as well as in Tupí-Guaraní languages.

3.3.3. *Mawé relational prefixes*

Table 3 Mawé relational prefixes (adapted from Franceschini 1999)

Classes	Subclasses	R1	R2	R3	R4
Class I	a)	i-/Ø -	i-	o-	Ø-
	b)	i-/Ø -	i-	o-	ʔ-
Class II		h-/s-	t-/n-	o-	s-

The Mawé reflexes of PT relational prefix R1 – (**tʔ-) are *h-* and *s-*. According to Franceschini (1999:234), the forms of the preceding personal prefixes condition the distribution of the two allomorphs of the relational prefixes. The *h-* allomorph of R1- occurs when preceded by the personal prefix for first person singular '1', first person plural inclusive '12(3)', second person plural '23', or third person singular non-reflexive '3'. On the other hand, the allomorph *s-* occurs in combination with a first person plural exclusive '13', a second person singular '2', a third person (singular) reflexive '3REFL', a third person plural non-reflexive '3PL', or a third person plural reflexive '3pl. REFL'.

Table 4 Mawé exemples of themes from Class I and Class II

Class I		Class II	
u-i-'yat	'my house'	u-h-et	'my name'
a-i-'yat	'our (incl.) house'	a-h-et	'our (incl.) name'
e-i-'yat	'your (pl) house'	e-h-et	'your (pl) name'
i-i-'yat	'its house'	Ø-h-et	'its name'
uru-Ø-'yat	'our (excl.) house'	uru-s-et	'our (excl.) name'
e-Ø-'yat	'your (sg) house'	e-s-et	'your (sg) name'
to-Ø-'yat	'its own house'	to-s-et	'its own name'
i'atu-Ø-'yat	'their house'	i'atu-s-et	'their name'
ta'atu-Ø-'yat	'their own house'	ta'atu-s-et	'their own name'

Our hypothesis is that, in a pre-historical stage, when the reflex of PT **$t^{?}$ in Mawé was still *ts,* the corresponding phonological forms of the pronominal marks for first person singular, first person plural inclusive, and second person plural were respectively **uj*, **aj* and **ej*. This is supported by the present day forms of Mawé independent pronouns – *uito* '1', *en* '2', *aito* '12(3)', *eipe* '23'. The high front vocoid of the forms *uj*, *aj*, and *ej* had thus palatalized the sound *ts*, which in turn was absorbed by the palatalized consonant. In a later stage the palatalized consonant would have changed to *h-*. Notice that this hypothesis also explains the *i* sound presently analyzed as the phonological form of one of the allomorphs of the R^1 prefix in Mawé, combining with noun stems from class I.

The Mawé language, as well as the Awetí and the Tupí-Guaraní languages, have a subclass of nouns, which nasalize the initial consonant when the determiner is generic and human. Examples from Mawé are: *u-i-ty* 'my mother'/*ny* 'mother', *u-i-po* 'my hand'/*mo* 'hand', *u-i-ko* 'my field'/*ŋo* 'field'.

3.3.4. Vestiges of a previous Awetí relational prefixes system

Table 5 Vestiges of Awetí relational prefixes (adapted from Monserrat field notes)

Class	Subclass	R^1	R^2	R^3	R^4
Class I	a)	Ø-	i-	o-	Ø-
	b)	Ø-	i-	o-	m-
Class II	a)	(t- [t- ~ n-] ~ Ø-)	t-/n-	o-	t-

In Awetí, vestiges of the reflexes of PT R^1- (**$t^{?}$) are still phonologically visible when the forms for first person prefix (absolutive) and for third person pronominal form *nã* (male speech) combine with a stem from class II, as shown below:

(5a) *it-up* — 1(R²-)father — 'my father'

(5b) *i-potɨ́-eyu* — R²-heavy-PROG; *nã-neté* — 3-(r²)for — 'it is heavy for him'

The loss of R[1]- prefix in Awetí was probably a consequence of the merger of the reflexes of PT **t*ʔ , **c*, and **t*, which made homonymous three relational prefixes with contrasting meanings.[5] Traces of the old allomorph of R[1]- are the segments *t* and *n* found respectively in the phonological form of the first person absolutive prefix *it-*, as well as in the form of postpositions of class two, such as *nete*, which presently has two suppletive forms *ete* and *nete*, this latter combining exclusively with the form *nãʼ* '3' (male speech).

On the other hand, the reflexes of the allomorphs of PT **i-* ∞ **c-* (R[2]-), as well as the allomorphs of PT relational prefix **t-* ∞ *m-* (R[4]-) are still functioning as relational prefixes.

(6) *koj* e-*ʔɨ́wo* *t-ut-át*
WHO 2-ASS R[2]-co me-NOM
'who came with you'

(7) *t-epít-eʔɨ́m-ɨtu-ʐan* *ay-atúk-ʐoko*
R[4]-cloth-NEG-NOM-PROSP 1-bath-PROJ
'I will bath without cloths'

(8) *ʔen* *t-eta-ɨtu*
2 R[2]-ôlho-ASP
'you are big eyed'

(9) *i-tó* m*otáŋ-upáp-ɨpé* *me* *e-potáŋ-yúŋ-ap -an*
2-GO R[4]- medicine-place -LOC ? 2- medicine-take-NOM-PROSP
'go to the pharmacy and take medicine'

Awetí and PTG have developed a correferential relational prefix *o-*, which has been referred to in the literature as relational prefix 3 (R[3]-) (see above on Mawé).

(10) *o-mẽpɨ́t-ʐa* *wej-t-ejõj*
3corr-woman's.child-COLL 3-R[2]-call
'ela chamou os filhos'

3.3.5. TG relational prefixes

Tupí-Guaraní languages present a rich set of relational prefixes. No matter the phonological and grammatical changes such languages have undergone, they have mantained active their respective relational prefix systems, the Amazonian Língua Geral being the only exception to this, as far as we know. The following table presents a reconstruction of Proto-Tupí-Guaraní relational prefixes and their corresponding allomorphs:

Table 6 TG relational prefixes

Class	Subclass	R[1]	R[2]	R[3]	R[4]
Class I	a)	Ø-	i- ~ jo-	o-	Ø-
	b)	Ø-	i-	o-	m-
Class II	a)	r-	s- ~ jos-	o-	t-
	b)	r-	t-	o-	t-
	c)	r-	s-	o-	ʔ-
	d)	r-	s-	o-	V[6] → Ø ~ t-

As mentioned before, Tupí-Guaraní languages, as well as Awetí, Mawé and Mundurukú combine relational prefixes with nouns and with verbs. In Tupí-Guaraní languages these prefixes also combine with postpositions, what seems to have been also the case at an earlier stage of Awetí (as shown by forms such as *nete* discussed previously).[7]

Tb

(11) *kwesé* *t-úr-i*
yesterday R[2]-come- IND.II
'yesterday this came'

(12) *koromõ* *sjé* *Ø-só-w*
soon 1 R[1]-go-IND.II
'soon I go' (Anchieta 1595:39v)

(13) *sjé* *Ø-pɨtá-j* *t-úr-i*
1 R[1]-heels-LOC.SIT R[2]-come-IND.II
'at my heels this one came' (Anchieta 1595:41v)

Su

(14) *u-sewɨ́r* *ripó* *i-suká-eʔɨ́m-a* *sawár-a*
3-come.back prob R[2]-kill-NEG-GER jaguar-ARG
'he came back without having killed the jaguar' (Cabral field notes)

Notice that, even in Tupían languages in which these prefixes seem not to be productive anymore, there are still stem alternations according to the contiguity/non-contiguity of a determiner in dependent stems, as for example in Mekéns[8]:

(15) *teyẽ* *tek*
DEM house
'house of this one' (Galúcio 2001:47)

(16) *teke* *ek* *topserap*
DEM house dirty
'this dirty house' (Galúcio 2001:47)

(17) *o-top* *tek*
1SG-father house
'my father's house' (Galúcio 2001:47)

3.4. Proto-Tupían case markers

Proto-Tupían probably lacked inflectional nominal cases for marking grammatical relations. We postulate that the morphological cases found in some Tupían families are traceable from the PT postpositions ***pe* 'punctual locative/dative', ***ka* 'allative', and ***wo ~ mo* 'diffuse locative'. Other PT postpositions should have been ***ece* 'relative'/'associative', ***eɾi* and ***wi* 'ablative', ***eɾʲo ~ **eɾʲe* 'associative', ***cočе* 'superessive', and ***na* 'translative'. The semantic meaning associated with some PT postpositions would cover what in other languages is expressed by one or two morphemes, as it is the case of the PT postposition ***pe* 'punctual locative/dative', a feature which has been maintained in some of its offsprings. The Arikém, Mawé, Tuparí, and Tupí-Guaraní families have developed inflectional morphological cases from PT ***pe*: Am *-p ~ -pi* 'locative', Kt *-p ~ -ip*[9] *~ -pip* 'allative' (< PT ***pɨ* 'interior' + ***pe* 'punctual locative'), Tu and Ak *-pe* 'punctual locative', Mw *-pe ~ -we* 'punctual 'locative', Aw *-pe ~ -ɨpe*[10] 'punctual locative', TG **-pe ~ -ɨpe ~ -me ~ -ɨme* 'punctual locative' and perhaps also **-βe ~ -me* 'pronominal dative'.

Am
(18a) *Manáo-pi* *pitáta*
Manaus-LOC go
'he goes to Manaus' (Nimuendajú 1932: 116)

Kt
(18b) *pɨɾɨ-taɨn* *gopi-p*
VB.FOC-go-NFUT jungle –ALL
'then she went to the jungle' (C. Everett, 2007:431)

The Tuparí, Mundurukú, Mawé, Awetí, and Tupí-Guaraní families have developed a morphological case from PT ***wo*: Mu *-m* 'instrumentive', as well as *-m* 'imperfective aspect', Tu *-mo ~ -o* 'allative', Ma *-wo ~ -mo* 'directive', Awetí *-wo ~ -ɨwo ~ -o* 'diffuse locative', and TG **-βo ~ -ɨβo ~ -mo ~ -ɨmo ~ -o* 'diffuse locative', as well as **-βo ~ -mo* 'pronominal dative'.

Aw
(19) *o-wút-e* *i-ʔɨwáwo* *me*
3-fly-PROG 1-hight-DL indeed
'he is flying over me' (Monserrat, field notes)

Ma

(20) *Seruai yt-Ø-hewyry-ʔi te maʔato meiko-wo*
Seruai NEG-3-be.at-NEG yet CONJ DEM-DIRECTIVE
'but this way Seruai did not took a walk yet' (Franceschini 1999:200)

In Awetí and in TG the reflexes of PT **wo* have developed a central vowel when inflecting stems with final consonants (Aw *-ɨwo ~ -ɨmo*, TG *-ɨwo ~ -ɨmo*). In Awetí the combination of this suffix with the reflex of the PT noun ***pɨ* 'inside' has resulted in the postposition *pɨwo* (following a vowel) ~ *ɨwo* (following a consonant) 'inessive'. It has also combined with the morpheme *ʔɨp* (< PT ***ʔɨp* 'thigh'?), giving *ʔɨpɨwo* 'associative'.

In Tupí-Guaraní the reflexes of PT **wo* and **pe*, combined with the derivational suffix **-am ~ -ɾam ~ wam* 'projected state of an entity' (**-am+βo > -amo ~ *-ɾam+βo > *-ɾamo* or **-am+pe > -ame ~ *-ɾam+pe > -rame*) resulted in the Proto-Tupí-Guaraní morpheme conveying an irrealis or hypothetic meaning. The derivational morpheme has contributed to project the state of an entity in a hypothetical world, the postposition locating the predication in this same projected world. Thus, it is the hypothetical meaning of the present day morpheme that has been analyzed as a subjunctive or conditional mark in Tupí-Guaraní (Rodrigues 1953).

In Proto–Awetí–Tupí-Guaraní the reflexes of PT **wo*, already developed into a case marker, has also fusioned with the nominalizer *–ap*, resulting in what has been called the gerund suffix in PTG (**-aβo ~ -βo ~ -amo ~ -mo ~ -o*) and in Awetí (*-aw*). In both languages the gerundial constructions still have nominal properties and trigger morphosyntactic changes in the predicate nucleus when fronted, a process otherwise triggered in both languages only by adverbial expressions (Cabral and Rodrigues 2005).

In languages of other Tupían families, the PT postpositions **pe* and **wo* did not change their grammatical status. These are the cases of MO Cl *(me)pe* 'allative', RA Ka *peʔ* 'locative', MA *me* 'locative' and *pe* 'dative', TU Me *pe* 'locative', JU Ju *he* 'punctual locative' and *be* 'dative/relative', Xi *he* 'punctual locative/dative/relative', and MU Mu *pe ~ be* 'locative'. It is also the case of TG **-pe* 'locative' and **-upé* 'dative' (restricted to nouns).

Ka

(21) *et kaʔa ʔa peʔ at epɨyap*
et kaʔa ʔa peʔ at e=pɨy-ap
2SG house CL.RD LOC 3SG 3SG-wait.for-AP
'(it was) at your house (that) he waited for you' (Gabas Jr. 1999:99)

Ma

(22) *kito ãrãpiyã kepit ek me*
man woman COORD house LOC
'The man and the woman are in the house' (Braga, personal comunication)

Mu

(23) *waẽn t-ək ʔa be ip ta-mõŋmõŋ*
oven R[1]-house CLASS LOC 3PL CLASS- put.PL.ACTION
'they put it in the oven house' (Crofts, 1985:93)

The reflexes of PT **wo ~ mo* are *mã* 'instrumentive' in Káro, *mõ* 'dative' in Mekéns' and *mo* 'allative' in Makuráp:

Ka

(24) *péŋ aʔwin tágɨh mã*
péŋ aʔ=wi=t tágɨh mã
white.man 3SG=kill-IND bow INSTR
'the white man killed it with a/the bow' (Gabas Jr. 1999:129)

Me

(25) *kɨpe õ-a-ɾ-õt aose same=mõ*
machete give -THEM-PAST=1 man/people beautiful=TO
'I gave the machete to the handsome man' (Galúcio 2001:34)

Mk

(26) *kito tet-ø ŋe mõ*
man go-PERF garden ALL
'The man has gone to the garden' (Braga, personal comunication)

The reconstruction of a PT postposition **ko* is hypothesized as having developed out of the PT verb **eko* 'to be in movement', on the basis of Pa *-ka* 'punctual locative' and Gv *-ka* 'punctual locative'. Other candidates to being reflexes of PT **-eko* are the forms *-kaj* 'dative' of Pa, *kəj* 'dative' of Káro, *-kaj* 'allative' of Mu, as well as the morpheme *kaj-* of Mw, which combines with the suffix *-pɨj* 'ablative'[11],[12]. Two forms may be reconstructed for PT conveying an ablative meaning, **eɾe/eɾi* and **wi*. The reconstruction of **eɾe/eɾi* is based on Tu *eɾe*, Me *eɾi*, Kr *-piɾi* (< *-pɨɾi* < PT***pɨ* + ***eɾi*), Gv *-pi* (< *-piɾi* < *pɨɾi* < PT ** *pɨ* + ***eɾi*), TG *-(ɾo)iɾé ~ -(ɾ)iɾé ~ (ɾ)iɾí* 'after'. The data supporting the reconstruction of **wi* are Mu *wi*, Mw *pɨj* (< PT ***pɨ+wi*), Aw *piti ~ -ti* (< PT ** *pe+wi*, considering the Awetí change of pre-vocalic PT ***w > j > t* in medial position), and TG **tsuwí ~ (u)wi*.

Aw

(27) *joʔók mãʔãpé-pɨ-ti*
extract Canoe-interior-ABL
'take out of the canoe' (Monserrat, field notes)

An interesting fact about the reflexes of PT **wi* in Mw, Aw and TG is their co-occurrence with stems modified by the reflexes of PT **pe*, as exemplified by the following Mundurukú sentence:

Mu

(28) *Belém be wi i-bəbəʔ*
Belém LOC from 3-buy
'he buys it from Belém' (Crofts, 1985:241)

This fact favors the hypothesis that the morphemes conveying an ablative meaning in PT have fused with locative postpositions in languages of the Mondé and Arikém families.

An associative and a relative meaning would have been conveyed by the PT form ***ece*, which has reflexes in languages of various Tupí families, such as Tu *ete*, Ak *ete*, Me *ese*, Mw *eɾe*, Aw *ete,* and TG -**ece*. Another PT morpheme conveying an associative meaning must have been ***eɾʲo ~ eɾʲe*, which has reflexes in the Mondé (Pa -*ízá* 'with'), Mundurukú (Mu *eǰə)*, and Jurúna (Ju *ju*) (and might be related to the causative-comitative prefix, see 3.11.4 below):

Pa

(29) *kád-eká méy-pée ma íwé-ízá óm ma*
what-SUBORD aPL-like T/A- that-with NEG HORT
'why didn't you know about it?' (van der Meer 1985:181)

Finally, on the basis of Tu *na*, Me *na*[13], Ma *na*, Ak *na* 'translative' (Tuparí family), Pa *na*, Gv *ná* 'translative' (Mondé family) and Awetí *-an ~ -žan* 'translative' (< Proto-Aw-TG *-am/-rʲam*' future state of an entity' + *na)*, we postulate a PT form ***na* conveying a translative meaning. The gloss for the morphme *na* is 'verbalizer' in the example of Mekéns.

Aw

(30) *tatapé a-Ø-ʔó k-eyu it-ók-an*
sapé-grass 1-O-pluck-PROG 1-house-TRANS
'I am plucking sapé for my house' (Monserrat, field notes)

Gv

(31) *kàhj ná te já*
velho PP IN AXDN
'was it (the tapir) an old one? (Stute 1985:17)

Me

(32) *sete i-õm se-kɨp aisi na*
HE/SHE OM-give 3CORR-brother wife VERBALIZER
'he gave her as his brother's wife' (Galúcio 2001:200)

Mu

(33) *paŋo kaj õn w-e-saj məŋe-am*
tissue want 1 1-MED-skirt make-TRANS
'I want tissue to make my skirt' (Crofts 1985:223)

Zo

(34) *ʔóŋ-a* *kuru-Ø* *r-ejdɨr-amõ*
This-ARG Kuru-ARG R[1]-man's.sister-TRANS
'this is Kuru's sister' (Cabral, field notes 2005)

3.5. PT nominal derivational morphology

Nominal derivational morphology would have been endocentric and served as a way of specifying the PT speakers' view of the importance (physical or affective) of an entity in the cultural world. Two derivational morphemes are reconstructed for PT – **-*ačú* 'intensive' and **-*ʔĩn* 'atenuative', which have the following reflexes in eight Tupían families[14]:

Table 7 Reflexes of PT 'intensive' and 'atenuative' suffixes

PT		**-*ačú* 'intensive'	**-*'ĩn* 'atenuative'
Ar	Kt	tɨ -otɨ	-'ĩn
Ra	Ka[15]	čú	-'ĩt
Mo	Pa	àtóà 'tall'	(ʃi)in
	Ga	àtóò 'tall'	(ʃi)'ĩn
Tu	Tu	-ato	–
	Me	-aso	(ʃi)ĩn
	Ak	ačú	tin
	Ma	ato 'large', 'big'	–
Mw	Mw	-wato	hit/hin
JU	JU	–	–
Aw	Aw	-watu	–
TG PTG		*-wačú ~ -učú	-ʔĩ

Three Tupían oriental families, Mundurukú, Awetí, and Tupí-Guaraní, have grammaticalized a formal distinction of the existential states of a referent (cf. Rodrigues 2001). The distinction 'actual state' versus 'prospective state' is found in Mu (*-ək'a* 'house', *-ək'a-m* 'future house', *-parat* 'sieve', *-paran* 'future sieve', *-darək* 'bow', *-darəŋ* 'future bow'). A distinction of 'actual state'/'retrospective state'/'prospective state' is found in TG (**-ok* 'house', **-ok-wam-* 'future house', **-ok-weɾ* 'former house', **uʔí* 'manioc flour', **uʔí-ɾam* 'future manioc flour', **uʔi-pweɾ* 'ex-manioc flour'), and in Aw (*i-men* 'my husband', *i-men-an* 'my future husband', *i-men-put* 'my ex-husband'). In all three families the 'actual state' is non-marked, and in Awetí and Tupí-Guaraní the 'retrospective' comes from the Proto-Tupí word for 'old' (Aw *-put*, TG **-pweɾ* < PT ***pwet* 'old'). The 'prospective' suffixes present in Mundurukú and Tupí-Guaraní are phonologically correlated: Mu *-m* and PTG **-wam* (after [+grave] consonants) ~ **-am* (after [-grave] consonants) ~ **-ɾam* (after vowels). The Tupí-Guaraní allomorphs of the 'prospec-

tive state' may have developed by analogy with the phonological variants of the 'retrospective' morpheme *-*weɾ*, occurring after [+grave] consonants. As to the Awetí 'prospective state' morpheme, it must have been originally *-am/-ɾʲam*, but later replaced by *-an ~ -ʐan*, as a result of its fusion with the translative form *na* (*-*am* + **na* > *-an, *-*ž̨am* + * *na* > *-ʐan*).

3.6. Generic mediator of dependency

Tupían languages make use of either generic affixes or nominal stems as mediators of nominal dependency relations involving absolute nouns. One generic mediator morpheme **-*ep*- is reconstructed for Proto-Tupían (Rodrigues, Cabral and Corrêa da Silva 2006). Reflexes of this morpheme are found in the languages of five Tupían families:

Mw

(35a) *u h-e-sokpe*
1 R[1]-MED-clothes
'my clothes'
(Franceschini 1999:24)

(35b) *e-Ø-e-ko*
2-R[1]-MED-tradition
'your tradition'
(Franceschini 1999:25)

Aw

(36) *e-e-moʔém*
2-MED-lie
'your lie' (Monserrat ms.)

(37) *it-e-piraʔít*
1-MED-fish
'my fish' (Monserrat ms.)

Mu

(38) *w-e-kobé*
1-MED-canoe
'my canoe' (Crofts 1985:63)

Mk

(39) *oxep xatit*
o č-ep č-ati-t
1 PRNC-MED PRNC-pain-GEN
'my pain'

(40) *tepxatit*
Ø-t-ep- č-ati-t
3SG-PRNC-MED PRNC-pain-GEN
'his pain' (Braga 2005:43)

The reflex of PT **-*ep* is found as an unanalyzable string of sounds making up the nominalizer of nouns of object *-*emi*- (< PT **-*ep+mi*): Tb *ʃé ɾ-emi-ár-a* /1 R[1]-NLZ-catch-ARG/ 'my pet', *ʃé ɾ-emi-ʔú-Ø* /1 R[1]-NLZ-eat-ARG/'my food'; Zo *e ɾ-ebi-é-Ø*/1 R[1]-NLZ-catch-ARG/ 'my pet'.

Paitér and Gavião (Mondé family), on the one hand, and Jurúna, on the other hand, have respectively *ma*-, *baɾ*- and *mé* as mediator mrphemes, as illustrated by the following examples:

Pa

(41) *Xosé dé a-m-áwuɾ u ma-kah é*
José PERF 3-OPT.POSS-dog CAUS-go decl
'José sent his dog away'

(42) *o-ma-kásáɾ*
1SG-OPT.POSS-macaw
'my macaw' (van der Meer 1985:224)

Gv

(43) *é bó on máaka bàɾ=pèh kábi-á*
DEM CN 1SG AXDH 1SG =gun for-FN
'than I went by myself look for my gun' (Stute 1985:36)

Ju

(44) *u= mé hulá*
1SG POSS pig
'my possession pig'(Fargetti 1999:24)

(45) *u= mé piča*
1SG POSS fish
'my possession fish' (Fargetti 2001:155)

3.7. Nominalizer of possessive markers

A nominalizer of possessive markers **-*at* is tentatively reconstructed for PT on the basis of Pa -*id* 'nlz', Ka -*at* 'nlz', Tu -*et* 'definite case', Mw -*wat* 'nlz', and TG *-*waɾ*/-*wan* 'nlz'. In Mawé the reflexes of PT **-*at* combine with pronominal markers as well as with deictics (in this case to form demonstrative pronouns). In Káro the reflexes of PT **-*at* combine with pronominal markers and in Tuparí and in Tupí-Guaraní languages they combine with noun phrases.

Ka

(46) *wat awe oɾabitẽy*
w-at awe o=ta-pitẽp-t
1SG.POSS brother 1SG=COM-cross-IND.I
'my brother crossed with me' (Gabas Jr. 1999:67)

Pa

(47) *xi-id aŋa mã káne*
3SG-FR.POSS make IMP want
'make his! (make one for him!)'

(48) *a-íd ewa bé*
3-FR.POSS sing INF
'she wants to sing her own (song)' (van der Meer 1985:224)

Tu

(49) *kyɾ-e t* *õ-ʔeɾa* *on*
child-DEF CAUS-sleep-THEME 1
'I cause the child to sleep' (Alves 2004:229)

3.8. Gender and number

Proto-Tupían probably had no marker for number or gender in nouns. Biological gender and number have been described as manifesting in third person pronominal forms of a few languages: RA Káro, TG Parintintím, Kayabí, Tapirapé, Apiaká, Asuriní of Xingu, Asuriní of Tocantins, and AW Awetí. Plural notions are expressed by collectivizers or associative morphemes, rather than by pure pluralizers, as Pa *ey*, Ka *toʔ,* Aw *-ʐa*, Mw *-ɾi*, since they seem to modify classes of entitties rather than conveying a plural notion as opposed to the notion of singular.

3.9. Systems of noun classification

Two Tupían families spoken in the region between the Aripuanã and the Tapajós rivers have developed ways of classifying referents of nouns according to their physical characteristics, such as shape, consistency, and dimension. These are Mundurukú (Crofts 1971, 1973, 1985; Comodo 1981; Viana 2000; Gomes 2006) and Ramaráma (Gabas Jr. 1999). In both families, the classifier morphemes are relative nouns referring to body and plant parts, arrangement and consistency. In Mundurukú the classifier morphemes are nominal roots dependent of a determiner, whereas in Káro, as claimed by Gabas Jr. (1999:167), the classifier morphemes are clitics. Crofts (1985:94) mentions the existence of around 50 classes of nouns in Mundurukú, whereas Gabas Jr. (1999) describes 11 classifier clitics for Káro, including a third person feminine singular morpheme and a form *ña*, which occurs only with two nouns (for 'fire' and 'manioc') (p. 164). In both languages, the scope of nominal classifiers is the head noun. As to the expression of agreement, it marks the noun determiners (attributes, demonstratives, and numerals). They also combine with the head of nominal predicates (Mu and Ka) and with the head of verbal predicates (Mu only), in which cases they have a clear anaphoric function, cross-referencing So, Sa and O. With an anaphoric functional behavior, they are always present when called for to assure the discourse cohesion.

Mundurukú

(50a) *ək-ʔ a* *y-a-dip*
house-CL R[1]-CL-beautful
'the house is beautiful'
(Crofts 1973:87)

(50b) *ibo-ʔa* *ək-ʔa*
that-CL house-CL
'that house' (Crofts 1973:87)

(50c) *pəŋ-ʔa* *ək-ʔa*
One-CL house-CL
'one house' (Comodo 1981:21)

(50d) *aŋokatkat* *ək-ʔa* o*ʔ-y-a-ǰoǰo*
man house-CL 3-R[2]-CL-see
'the man saw the house' (Crofts 1973:87)

(51a) Káro

karo *ʔaʔ* *pãˊr* *ʔaʔ*
macaw CL beautiful CL
'beautiful macaw'
(Gabas Jr. 1999:177)

(51b) *wayo* yogá be*ʔ*
alligator tongue CL
'tongue of alligator'
(Gabas Jr. 1999:172)

The two families share the following cognate classifier morphemes: Mu *ʔa,* Ka *ʔaʔ* 'rounded objects' < PT ***ʔa* 'sphere/head/rounded fruit', Mu *ʔip/op* 'as a tree', Ka *ʔɨp* 'cylindrical object' < PT ***kʔɨp* 'tree'. The two systems also have a classifier for names with flat referents, Mu *dəp* 'leaflike object' < PT ***-op* 'leaf' and Ka *peʔ* < PT ***-pep* 'flat'. A noun classification system based on semantic properties of noun referents is not reconstructable for Proto-Tupí, although the proto-language would have had the adequate morphosyntactic conditions for developing a system based on such semantic properties, since compounding is one of the most productive processes in the Tupian families and is the way to express an adjective function.

Finally, the main features of the Mundurukú and Káro classifier systems are the following: (a) lexical origin, (b) derivational nature, (c) discourse sensitive, (d) possibility of combining with noun modifiers (adjectives, demonstratives, and numerals) within a noun phrase and with adjectives and verbs in the predicate nucleus (Mu), in this case with an anaphoric function. These features locate the Mundurukú and the Káro systems in the typology proposed by Grinevald and Seifard (2004), in a position between the systems of classifiers (which are lexical as well as grammatical) and the systems of noun classes (which are fully gramaticalized systems). As there is no basis for postulating a classifier system for PT, the Mundurukú and Káro data may contribute to the claim of an areal origin for certain Amazonian classifier systems (Gomez-Imbert 1996; Aikhenvald 2004, Grinevald and Seifard 2004). In this respect, the geographical proximity of the Ramaráma with the linguistic isolates Kwazá and Kanoê, both of which display nominal classifier systems, should be taken into account.

3.10. Demonstratives

Proto-Tupían demonstratives must have formed a small class of words, coding the spatial orientation of a referent vis-à-vis the speaker and the hearer – close to the speaker and the hearer and far from the speaker and the hearer –, as well as its visibility. Since the Tupian demonstrative expressions are syntactally contiguous or distant from the noun whose entity they refer to in the discourse they do not build a determiner head-noun relation, and consequently they are not true determiners[16] (cf. Crofts 1985:240; Vieira 1993:45–47; Everett 2007), as shown by the following examples:

Mu

(52) *ibo* o*ʔ-ǰ ə* a*ñokatkat*
that 3-go man
'that man went' (Crofts 2004:240)

Ju

(53) *amï ḯ kuɾuá kuɾuá amï ḯ a hí*
this ? pumpkin pumpkin this ? say REP
'this is a pumpkin, this is a pumpkin – he said' (Fargetti 2001:282)

Kt

(54) *boɾotɨ ho i-pɨkɨna-t*
paca dem.prox INT-run-NFUT
'this paca run' (can mean 'the paca run here' (Everett 2007:314)

The syntactic behavior of the Tupían demonstratives in association with their use in discourse is the foundation for their division into two types: spatial/temporal demonstratives and context referent demonstratives. These are the main features of the internal structure of the demonstrative system that we postulate for Proto-Tupían (Cabral and Rodrigues (2008 ms.). Some languages have added positional and geometric form information to their demonstratives. We propose that this innovation is due to the co-occurrence of demonstrative expressions with positional verbs specifying physical properties of the entities referred. This co-occurrence would have created conditions for the development of new deictic expressions combining position with spatial orientation and visibility – position being a semantic feature also indicating referents by means of their geometrical forms. The Tupían languages for which such demonstrative systems have been reported are: Tapirapé of the Tupí-Guaraní family (Almeida *et alii* 1980), Mekéns of the Tuparí family (Galúcio 2001), Karitiána of the Arikém family (C. Everett 2007), Mawé of the Mawé family (Suzuki 1997, Franceschini 1999), and Mundurukú of the Mundurukú family (Crofts 1985).

Most of the demonstrative roots found in these languages are originally positional verbs, as shown by the following cognate forms: Kt *ɲã*, Me *jẽ,* Mw *ɲu*, Tp

ʔɨn (< PT **in* 'to sit'); Kt *hɨp*, Me *op*, Mw *sop,* Mu *-ǰəp* (< PT **-up ~ wup* 'to lie'); Kt *ka*, Mw *(e)ko,* Me *ko* (< PT **eko* 'to be moving'); Mw *ju* 'in vertical position' or 'with a long form' and Mu *ŋo* 'close and standing'; Mu *-be* 'distant and most of the times lying on the ground' and Tp *epe* 'non-large things laying down or falling down'.

3.11. Proto-Tupían verbs

Tupían languages divide verbs into two main classes, according to the transitivity criterion – the class of intransitive and the class of transitive verbs. Each one of these classes is further divided into two subclasses, one of them being formed by verbs that take an additional obligatory complement[17]. Derivational processes typical of Tupían verbs are all transitivity oriented as well as most of their alignment systems.

3.11.1. Proto Tupían positional, motion, and dicendi/faciendi verbs

Proto Tupían would have had a subset of verbs functioning as nucleus of independent predicates as well as modifiers of main predicates, which included positional (**ʔam* 'to stand', **up ~ wup* 'to lie', **in* 'to sit', **eko* 'to be moving', **kup* 'to be.plural'), motion/directional (**ka* 'to go', **co* 'to go', and **ut ~ **wut* 'to come'), and a *dicendi/faciendi* verb (**kʔe* 'to say/to do'). As modifiers of predicates they should have contributed to aspectual and modal notions to the main predicate. The *dicendi/faciendi* verb would have been the source of the epistemic particle marking the quotative (Pa *ja*, TG **je*).

Proto-Tupían positional, motion and *dicendi/faciendi* verbs would have plural forms as they are found in different families: Mawé, Tuparí, Arikém, Paitér, Tupí-Guaraní, Mundurukú (as for example Mw *to* 'to go.sg.', *wat* 'to go.pl.', *-ut* 'to come.sg', *oŋʔe* 'to come.pl.').

3.11.2. Derivational valence changing affixes

Four derivational valence changing prefixes are reconstructed for PT: a causative prefix **mo-*, a causative-comitative prefix **eɾʲo- ~ **eɾʲe-*, a reflexive prefix **we-*, and a reciprocal prefix **wo-*.

Transitive verbs are made intransitives across the Tupí families by means of cognate forms of a derivational prefix which supports the reconstruction of a PT reflexive prefix **we-*.

Pa

(55) *o-we-ikihn*
1-REFL-see
'I see myself' (Mindlin and Cabral, field notes)

Aw

(56) *a-túp e-te-kɨtsé-áp-pút*
1-see 2-REFL-cut-NOM-RETR
'I saw that you have cut yourself' (Monserrat, field notes)

Km

(57) *kunuʔum-a o-je-kitsi kye-ʔi-a pupe*
boy-ARG 3-REFL-cut knife-DIM-ARG INSTR
'the boy cut himself with a knife' (Seki 2000:279)

Gabas Jr. (1999) describes an impersonal passive prefix in Káro, which has the following allomorphs: *be-* (preceded by a glide or an unrounded vowel) ~ *we-* (preceded by a rounded vowel) ~ *pe-* (elsewhere). We postulate that the Káro forms *pe-* ~ *be-* ~ *we-* are reflexes of PT ***we-*, whose reflexive meaning is still active in Káro, although this language has introduced a new form to convey the reflexive meaning, as reported by Gabas Jr. (1999).

(58) *boi ʔet towaʔpara towewia*
boi ʔe-t to=paʔpat-a to=we-wi-a
ox AUX-IND.I 3R=fall-GER 3R=IPASS-kill-GER
'The ox fell and got killed' (Gabas Jr. 1999:87)

A passive marker *a-* has also been described for Karitiána (C. Everett 2007). This morpheme as well as the intransitivizer prefix *e-* described for Mekéns by Galúcio (2001:103) are considered here to be reflexes of the PT reflexive prefix ***we-*.

Kt

(59) *i-kɨ:n i-a-atot pɨejɨp*
3-REC nsap-pass-take letter
'he was taken the letter' or 'to him was the letter taken'
(C. Everett 2007:397)

Me

(60) *se-e-saɾo-ka te apaɾa*
3CORR-INTRVZR-yellow-TR FOC banana
'the bananas are getting ripe' (Galúcio 2001:103)

Tu

(61) *we-aki*
REFL-drag
'to creep' (Caspar and Rodrigues 1957)

Mawé and Mundurukú express the reflexive voice by the combination of a middle voice prefix (*če-* ~ *ǰe-* in Mu and *to-/he-* in Mw) with their reflexes of PT reflexive prefix (*we-* in both languages):

Mw

(62) *wa-tu-we-hum*
1INCL+MV-REFL-rejoice
'We rejoice ourselves' (Franceschini 1999:147)

Mu

(63) *e=če-we-jəj də*
2=MV-REFL-cover Q
'did you cover yourself?' (Crofts 1985:188)

We tentatively correlate the middle voice morpheme *ǰe- ~ če-* of Mundurukú with the Jurúna reflexive prefix (*j-* preceding vowels and *e-* preceding consonants), both of which may have been borrowed from Proto-Awetí–Tupí-Guaraní or from individual Tupí-Guaraní languages of the area around the Tapajós river between the Madeira and the Xingu rivers, with *j* instead of the *w* regularly preserved in Mu and Ju.

Xi

(64) *j-akýry' na*
REFL-cut 1
'I cut myself'
(Nimuendajú 1929:875)

Ju

(65) *l-akyry na*
REFL-cut 1
'I cut myself'
(Fargetti 2004:184)

Ju

(66) *any e-dúkú*
3 REFL-hurt
'he hurt himself' (Fargetti 2005:186)

The forms of a reciprocal prefix in Ka *ro-*, Mw *toʔo-,* Aw *to-,* TG **jo-*, are the basis for reconstructing a PT reciprocal prefix ***to-,* the TG reflex being the result of analogy to the reflexive **je-* (< PT** *we-*).

Ka

(67) *tap toroyapít*
tap to=ro-yapí-t
3PL 3r=REC-kill-IND.I
'they killed each other' (Gabas Jr. 1999:70)

Mw

(68) *wa-to'o-kwasa*
1INCL-REC-accuse
'we accuse each other' (Franceschini 1999:166)

*3.11.3. PT causative prefix **mo-*

In all nine documented families this prefix would have derived transitive verbs from an intransitive basis, as illustrated by the following examples:

Ka

(69) *õn* a*ʔ=ma-ket-t*
1SG 3sg=caus-sleep-IND.I
'I made it/him sleep' (Gabas Jr. 1999: 63)

(70) *ŋa* a*ʔ-ma-copɨt-t*
3SG.FEM 1sg=caus-be.fat-IND.I
'she made me be fat' (Gabas Jr. 1999:63)

Mu

(71) *i mu-wẽn-u-wen*
3 CAUS-talk-CAUS-talk
'telling it' (Crofts 1985:40)

Mk

(72) *on xauwi mõ kara*
on xauwi mõ+kat-a
1SG enfant CAUS+fall-IMPERF
'I make the child get down' (Braga 2005:322)

Me

(73) *kɨrɨt mo-er-a-t*
child CAUS-sleep-THEM-PAST
'he made the child sleep' (Galúcio 2001:97)

(74) *s-õ-kwe-a-t*
3S-CAUS-climb-THEM-PAST
'he made him climb' (Galúcio 2001:97)

Kt

(75) *ɨ naka-m-tat-Ø him pisɨp elivar-kɨn*
1SG nsap-caus-go-NFUT animal meat Elivar-REC
'I sent the meat to Elivar' (C. Everett 2007:442)

In some Tupían families, the prefix ***mo-* also derives transitive verbs from adjectives, as in Ramaráma, Mawé, Awetí, and Tupí-Guaraní:

Ka

(76) *ŋa o=ma-copɨt-t*
3SG.FEM 1sg=caus-be.fat-IND.I
'she made me be fat' (Gabas Jr. 1999:63)

Mw

(77) *a-ti-mo-tiŋ* *sokpeŋ*
1A+ACT.T+CAUS.I+stain cloth
'I stained the clothes' (Franceschini, p. c.)

In some Tupí-Guaraní languages the causative prefix also derives transitive verbs from nouns, as in natural speech acts collected from monolingual Asuriní of Tocantins and Zo'é speakers:

(78) *dzɔʔéarét¬* *bɔtadzahú* *aʔé* *tadzahú*
JɔʔéarétØ-bɔ-t adzahú aʔé-Ø tajahú
JoʔéRTRSP 3-CAUS-wild.pig this-ARG wild.pig
'he (Ipuhána) transformed the ex-Zo'é into wild pigs, then there were wild pigs' (Cabral, field notes)

*3.11.4. PT comitative-causative **er^{j}o- ~ **er^{j}e-*

Languages of six Tupían families have a comitative-causative prefix, which derives transitive verbs from intransitive ones, whose *causee* may perform simultaneously the roles of patient and agent (co-adjuvant) of a verbal process. Cognate forms of this morpheme are found in five families, which are the basis for the reconstruction of PT **er^{j}o- ~ er^{j}e- 'comitative-causative' (Ka *ta-* [ɾa], Mu *-oj̆ə-*, Mw *ero-*, Aw *eẓo-*, TG, *-ero- ~ -er- ~ -ro- ~ -r-*).

Ka

(79) *wat* *awe* *orabitẽy*
wat awe o=ta-pitẽp-t
1SG.POSS brother 1SG=CC-cross-IND.I
'My brother crossed with me' (Gabas Jr. 1999:86)

Mu

(80) *yaok a* *bəj e* *oʔ* *t-əjə-xe* *ip* *agoka* *be*
kill after 3 R2-cc-go.home 3 house to
'after having killed the tapir, they have taken it home' (Crofts 1985:76)

(81) *oʔ* *to-j ot* *je-we-be-am*
3 CC-come MV-REFL-LOC-NZR.TRANS
'he brought it for himself' (Crofts, 1985:181)

Mw

(82) *a-t-ero-min* *hirokat*
1-R2-cc-dive child
'I make the child dive (with me)' Franceschini (1999:232)

Aw

(83) *maʔãpé kay-eẓó -tó-ẓokó kóy-ɨp e*
canoa 1incl.-cc-ir-fut there.far-LP
'the boat will take us far from here' (Monserrat, p. c.)

Tupí-Guaraní

At

(84) *a-ro-ken ta*
1-CC-sleep PROJ
'I will make him sleep with me (a mother in regard to her child)' (Cabral, field notes)

Jurúna and Xipáya do not have a comitative-causative prefix. However, a corresponding comitative meaning is expressed by the postposition *dju* 'associative', which correlates to the reflexes of PT comitative-causative prefix in the languages mentioned so far.

Ju

(85) *alí i dju txa*
boy 3 COM go
'the boy went with him' (Fargetti 2001:134)

The presence in Mundurukú of a postposition *eǰə* associated to a comitative meaning, suggests a common origin for that postposition and the comitative caustive prefix found in this language.

Mu

(86) *čəm je-'it ejə*
go REFL-son with
'going with his own son' (Crofts 1985:57)

The Tuparí languages also have a comitative-causative, which has the same form as a postposition associated with a locative semantic case. In Mekéns (cf. Galúcio 2001: 98) the comitative-causative has the same form of the locative postposition *ese*, which is visibly part of other functional words in this language, such as *esẽm* 'associative', *(ka)abese* 'if/when':

Me

(87) *pagop-taɨp ese-kwar-a-t i-er-a i-to-a*
young.boy CC-get.out-THEM 3-sleep-THEM 3-AUX.LYING- THEM
'it carried the young boy when he was sleeping' (Galúcio 2001:51)

(88) *o-teg=ese o-koop*
1SG-house=LOC 1SG-AUX.MOV.PRES
'I am at home' (Galúcio 2001:185)

As to Makuráp, although it lacks a comitative-causative prefix, it has a postposition *ete*, cognate of Mekéns *ese*, which expresses the semantic case 'associative':

(89) *on Thiago wiara Risolêta ete*
on Thiago wiat-a Risolêta Ø-ete
1SG Thiago leave-IMPERF Risolêta PRC-with
'I left Thiago with Risoleta' (Braga 2005:100)

The presence of cognate comitative prefixes and postpositional forms in the Tupían families suggests, among other things, that: (a) the comitative prefixes found in Tupían languages might have had their origin in postpositions; (b) in a certain stage of the development of individual families, the incorporation of postpositions into intransitive predicate nuclei would have been productive, their results corresponding to applicative constructions[18]; (c) the grammaticalization of a causative prefix has occurred at different stages of Proto-Tupían diversification; (d) more than one postposition would have been able to undergo incorporation into intransitive predicate nuclei.

3.11.5. PT nominalizations

In this section we shall demonstrate that PT made use of nominalizations in a variety of syntactic contexts, including those in which they would correspond to complement, relative, and adverbial clauses. As we shall see, some constructions, which turned out to be problematic in the description of Tupían languages, since they apparently break the systematic absolutive pattern found in individual languages, are in fact reflexes of PT nominalized constructions.

Four nominalizing affixes can be reconstructed for PT: **-*at* 'name of agent', **-*pɨt* 'name of patient', **-*ap* 'name of circumstance', and **-*mi-* 'name of object'. Languages differ in the way they express an action noun. One way is without any derivationsal affix, but only treating the verbal stem as a noun, as in languages of the Tupí-Guaraní family:

Tb

(90) *sjé r-úβ a*
1 R1-father-ARG
'my father'

(91) *sjé Ø-sém-a*
1 R1-leave-ARG
'my leaving'

At

(92) *sé r-ów-a*
1 R1-father-ARG
'my father'

(93) *sé Ø-hém-a*
1 R1-leave-ARG
'my leaving'

Awetí, on the other hand, derives names of actions by means of the suffix *-tu ~ -etu ~ -u:*

(94) *wey-kwawáp-me* *o-kazã-tu*
3-know-? 3CORR-work-NZR
'he knows how to work'

(95) *ekóy* *t-etam-ti* *it-ut-u*
that R4-village-from 1-come-NZR
'my coming from that village'

3.11.5.1. Agentive nouns

Agentive nouns in PT were formed by means of the combination of a transitive verb stem with the suffix **-*at*: Pa *-aka-t* 'killer', Ga *-aka-r* 'killer', 'hunter', Tu *-toko-at* 'biter', Ma *pok-ng-ar-et*, 'killer', Mu *yaoka-at* 'killer', Mw *-mu:e-hat* 'teacher', Aw *-kwawap-at* 'the one who knows', TG **juka-car* 'killer'.

3.11.5.2. Patient nouns

We tentatively reconstruct **-*p̷it ~ -ip̷it* for the PT derivational morpheme forming patient nouns from a transitive verb stem. The reconstruction is based on cognate forms found in languages of the oriental family Tupí-Guaraní (PTG **-juká-p̷ir-* '(the) killed'), as well as in languages of an occidental family, Tuparí (Tu *ma-msit* 'the planted', Me *oetobeka-pit*, '(the) looser' Ma *-pok-ng-ap-pit* '(the) killed'). Awetí seems to have replaced the reflex of PT **-*p̷it ~ -ip̷it* by the reflexes of the PT word for 'old', *-put* 'retrospective state of an entity', due to their semantic, gramatical, and phonological shared features.

3.11.5.3. Nouns of object

A noun of object would have been derived in PT from the combination of a transitive verb with de prefix ***mi-,* which has reflexes in six Tupían branches: Arikém, Tuparí, Mundurukú, Mawé, Awetí, and Tupí-Guaraní. In Tupí-Guaraní the reflexes of PT ***mi-* have fusioned with the reflexes of PT **-*ep*, a generic noun serving as mediator in possessive constructions involving nouns with independent referents, so that the present day form of the nominalizer prefix is *-emi-*. In some TG languages this form oscillates with the form *mi-* when refering to a generic and human determiner, in the same way as other nouns of the same morphological class: Tupinambá *t-emi'ú ~ mi'ú*, Zo'é *t-emi'õ ~ mi'õ* 'food of human beings'.

Tb

(96) *Tupã Ø-sɨ́ sjé Ø-mo-murw-ár-a opá=katú sjé r-emi-ár-a*
God R1-mother 1 R1-caus-angry-NZR-ARG all=good 1 R1-NZR-take-ARG

sjé Ø-pó Ø-suí s-era-só-w
1 R1-mão R1-from R2-cc-ir-IND.II
'God's mother, my challenger, took from my hands all my preys (those I had taken)' (Anchieta 1977:209)

Km

(97) *jawár-a o-jewaem t-aʔɨ́r-a je= r-emi-pɨhɨ́k-er-a*
jaguar-N 3-escape 3-man's.son-N 1SG= R1-NZR-take-PAS-N
'the jaguar whose cub I have caught has escaped' (Seki 2000:182)

At

(98) *waronaré konomía o-ʔó konomi-tó-a r-emi-ʔó-a waronaré*
waronaré child 3-eat child-COLL-ARG R1-NZR-ingerir-ARG waronaré
'waronaré (a kind of honey) children eat, all children's eaten thing is waronaré' (Cabral, field notes)

Zo

(99) *A'e-rabẽ Ruwuhý r-ebi-re-há-rér-a o-hó té r-esák*
that-when Ruwuhý R1-nzr-cc-go-RETR-ARG 3-ir stone R1-see
then, he went to see the stone, the thing brought by Ruwuhý' (Cabral, field notes)

Awetí maintains the reflexes of PT **-*ep*, as well as the reflexes of PT **-*mi*-, and the combination of these two morphemes is very frequent in this language:

(100) *it-emi-moʔék-e-tu kát uyá Yakuʔí-pe*
1-NZR-make-?-C.PREP this Yakuʔí-DAT
'this is what has been ordered for me to do, by Yaku'í' (Monserrat, p. c.)

(101) *yo-pwáy-tukát i-kɨtɨ́ it-emi-moʔék-e-tukát-út*
2-ask.for-C.PREP 1-directive 1-NZR-make-?-C.PREP-RETR
'ask somebody to make what I have commanded' (Monserrat, p. c.)

(102) *kát e-emi-tsún-yu*
what 2-NZR-smell-PROGR
'what is your smelled thing?', 'what have you been smelling?'(Monserrat, p. c.)

In Mundurukú and Mawé the reflexes of PT **-*mi*- are respectively *mɨ*- and *mi*-:

Mu

(103) *hm hm we-mə-a-daʔa o-ʔó m õn xaʔá o-ʔó m*
Yes 1-NZR-CL-cozinhar 1-eat.PROGR 1 pequi 1-eat.PROGR
j-a-k aj du ẽn
2-CLwant INT 2
'Yes. It is the fruit cooked by me, the one I am eating, pequi. Do you whant some?' (Crofts 1985:223)

Mw

torania a-ti-koi hi:t u i-mi-kuap
(104) all 1–3-plant little 1 R^2-NZR-know
'I planted the little that is known by me' (Franceschini 1999:266)

The reflexes of PT ***mi-* in the Tuparí family are *-i-* in Makuráp and *-i-* in Akuntsú, Mekéns, and Tuparí. In all these languages the stem which is the basis of the derivation is a transitive verb and the resulting derived noun is the name of an object or the result of a verbal process, combining with the same nominal markers which function as determiners of nouns and as objects of transitive verbs:

Ak

(105) *tawtʃé u-i-mí*
Wild.pig 1-NZR-kill
'the wild pig is the one killed by me' (Aragon, notas de campo)

Me

(106) *kɨ ypit ko pa õt e-i-at*
fish ingest FUT 1 2-NZR-get
'I will eat a fish that you caught' (Galúcio 2002:81)

Tu

(107a) *kaʔare e-i-top toʔé*
who 2-NZR-see
'who did you see?'

Notice that in Tuparí, as demonstrated by Rodrigues (2007), stops have dropped or become *ʔ* in word initial position preceding *i* (PT ***min-* 'pointed stick' > Tp *ʔi*, PT ***miri*'small' > Tp *ʔiri*). This fact about Tuparí supports the hypothesis that the prefix *i-* is the result of the change of m > *ʔ/Ø/#__i*.

The Makurap prefix *-ĩ-* is another important indication that it is a reduced form of PT ***ep-mi-*. It maintained the nasality of the original morpheme after the loss of the initial *m* and the stem with which it combines is inflected for the R^1 relational prefix of class II, corresponding to a pattern found in TG, Mawé and Mundurukú.

(107b) *arikop [e j-i-peat-a]*
what [2 R1-NZR-look.for]
'what is the thing you are looking for?' (Braga, personal comunication)

All languages of the Tuparí family have a homonymous *i-* prefix, which is a reflex of PT ***i-,* which on its turn is one of the allomorphs of the R2 relational prefix. The phonological contrast between Makurap nominalizer *ĩ-* and R2 *i-* provides further indication that these two prefixes should not be confused.

Karitiána has a morpheme *ti-* combining with transitive verbs in which the agent is not codified via a free pronoun as expected, but instead by the personal prefixes of the absolutive series, the resulting construction occurring when an object is fronted (cf. Landin 1984, Storto 2005, Everett 2007). The Karitiána *ti-* constructions correlate in form and function with the Tupí-Guaraní and Tuparí constructions with the reflexes of PT ***ep-mi* (Rodrigues, Cabral e Corrêa da Silva 2006).

Kt
(108a) *mõrãmõn a-ti-hirã*
what 2S.ABS-O.FOC-smell
'what did you smell?' (C. Everett, 2007:325)

(108b) *ʔep aj-ti-pasangã-t ajxa*
trees 2PL-O.FOC-count-NFUT 2PL
'trees, you are counting' (Storto 1999a:163)

C. Everett (2007:325) observes that, as Landin (1984:244–245) first noted, the *ti-* prefix also occurs in finite clauses, as in *epo:si:d in ti-hirãt* 'a flower is what I smelled', or 'It's a flower I smelled'. Our hypothesis is that the Karitiána *-ti-* prefix occurring with non-finite verb stems is the equivalent of PT ***-ep-mi-*, while the prefix *ti-* combining with finite verb stems has a different origin[19], correlating in function with the R2 relational prefixes found across the Tupían languages.[20]

3.11.5.4. Names of circumstance

Another derivational morpheme reconstructed for PT is ***-ap*, whose reflexes across the Tupían languages derive nouns of circumstance from transitive and intransitive verbs: Ar *-syuku-oβ-o* /-shoot-NZR-ARG/ 'arrow', Kr *gaw-ap* /drink-NZR/ 'drinking', Tu *-to-ap* /see- NZR/ 'mirror', Me *-poka-ap* /light-NZR/ 'lighter', Ak *-er-ap* /sleep-NZR/ 'sleep place', Ju *-ɸukaẽ-ap-a* /roast-NZR/ 'place for roasting', Xi *kuat-ápa* /leave- NZR/ 'door', 'exit', Mu *-yaokaka-ap* /kill- NZR/ 'circumstance of killing', Aw *to-ap* /go- NZR/ 'going', TG **t-up-aβ-a* /R4-lie-NZR-ARG/ 'place for lying'. In Káro, the reflex of PT ***-ap* has undergone a semantic change from nominalizer of circumstance to nominalizer of agent (*-nok-ap* /eat-NZR/ 'eater'), while a new nominalizer of circumstance (*kanã*) was developed, and the reflexes of PT ***-at* disappeared.

3.11.6. Nominalizations as noun modifiers

Nominalizations were also used as a Proto-Tupían device for expressing noun modifiers.

Mk

(109) *amengko* *e yipoknga* *o Xaot*
amengko e+y-i+pok-ng-a o+x-ao-t
dog 2+R1-NLZ+kill -EFF-IMPERF 1sg+PRC-pet-GEN
'the dog that you are killing is my pet' (Braga 2005:172)

Mu

(110) *i-wɨy* *ojuy-acat* *o-ajẽm* *i-ŋuycɨŋ*
R2-arrow want-NZR-NZR 3-arrive R2-sad
'the one who would like to arrow him, came back sad' (Crofts 1985:221)

Although the translations of the above sentences suggest the existence of relative clauses in the respective languages, the constructions are instead clear nominalizations. The following example from Mundurukú has also been translated as containing a relative clause, but it has in fact a nominalization as the nucleus of a nominal phrase functioning as the direct object of the verb 'to see':

Mu

(111) *je-d-ɨk ʔa* *be* *je-xe* *pin-a(t)-yɨ̃* *o-jojojo*
CORR-R1-house LOC MED-enter want-NZR-PLU 1-see
'I saw those who wanted to arrive at home' (Crofts 1985:221)

In languages for which relative clauses have been reported, such as Karitiána (Storto 1999a, Everett 2007), the verbal form shows traces of the old Tupí nominalizer of object (*ti-* < PT ***ts-ep-mi-*), as proposed in Rodrigues, Cabral and Corrêa da Silva (2006):

Kt

(112) *ãn* *naka-mi:-t* *taso* *Ø* *ɨn* *ti-mi:*
2S NSAP-hit-NFUT man O 1SG OFC-hit
'you hit the man that was hitten by me' (Everett 2007:384)

Relative clauses have also been considered for Mekéns, Xipáya, and Gavião respectively by Galúcio (2006), C. R. Rodrigues (2006), and Moore (2006). However most of the examples used to illustrate cases of relativization are either traceable to coordinating Tupían processes or to simple cases of nominalizations.

3.11.7. Compounding

Compounding is a word formation process widely present across the Tupían families. The remarks on compounding made for Tupinambá by Rodrigues (1951) are valid for most of the Tupían languages. There are two main types of Tupían compounding: [noun-noun/intransitive.verb] and [noun-tansitive.verb]. In the first type, the relation holding between the elements may be *determinative* – the first element determines de second – or *attributive* – the second element functions as an attribute: Ka *ɨu-pap-ci* /açai CL.CYLB water/ 'açai-wine'(Gabas Jr. 1999:175); Ju *iyá-xipá* /river straight/ 'Xingu river' (Fargetti 2001:113); Me *sakɨrab-eʔɨt-poot* /black.monkey-belly-old/ 'woolly monkey', *kɨmakãy-yẽẽt* /soil-ashes/ 'dust' (Galúcio: 2001:106); Mw *aria-'yp-tek* /fire-wood-piece/ 'firewood piece', *awya-totiŋ* /jaguar-spot/ 'spotted jaguar' (Franceschini 1999:49); TG **pir-ãj* /fish+teeth/ 'piranya', **ja'wa-pinim* /jaguar+spot/ 'spotted jaguar', **pirá-βeβe* /fish+fly/ 'flying fish', Aw *ɨtɨ-wapát* /deer-crooked/ 'a species of deer' (Monserrat, p. c.), *mó-kút-etsát* /hand-extremity-rolled/ 'ring' (Monserrat 1976:11), *t-aʔɨ́y-túp-ɨtu awati* /3-seed-yellow-nzr maize/ 'yellow seed of maize'. As for Kt, Everett (2007:204) presents some lexicalized compounds, such as [epesap] 'tree leaf', [opagiso] 'oven' (from *opag* 'white man' + *iso* 'fire').

The other type of compounding described for Tupinambá by Rodrigues (1951) has been treated by other authors as incorporation, which involves the morphological combination of a noun with a transitive verb. This type of compounding is found in only four of the Tupían language families, all of them of the oriental branch – Mawé, Awetí, Tupí-Guaraní, and Mundurukú. This derivational procesess must have been an innovation in these oriental Tupían languages, very likely to have been motivated by changes in the original argument structure of Proto-Tupían transitive predicates.

3.11.8. Reduplication and triplication of stems

Tupían languages make use of reduplication and triplication of stems as a means of conveying aspectual or *Aktionsart* notions (cf. Rodrigues 1953), reduplication being the most widespread of the two. The main result of reduplication and triplication is the pluralization of a state or process (plurality either of the argument or of the action). In both cases, what is reduplicated or triplicated is a stem or part of it.

Reduplication as a productive process has been reported for eight Tupían families: Karitiána, as reported by C. Everett (2007:210), is the only language where reduplicated stems are lexicalized remnants: *ãn i-potpora-Ø ese hɨ* /2s irr-cook-n.fut water Q/ 'did you boiled the water?' (p. 371) (a cognate of this redulicated form is found in TG languages, such as Tb *pupúɾ*, Zo *ʔɨ-Ø Ø-popot* /water-ARG3-boil/ 'the water boils'*).* Examples of reduplication in other Tupían languages are:

Ju

(113) *ídja iyá/ awi* *í dja iyá awi-wi*
woman water drink woman water drink
'the woman drank water' 'the woman drank water more than one time'
(Fargetti 2001:181)

Mu

(114) *ao-yə̃ kapik-pig kə be*
woman-PL work-work.ASP garden LOC
'the women are working in the garden' (Crofts 1985:67)

(115) *ajo pen-pen ejjə*
what do-do 2PL
what are you doing? (Crofts 1985:67)

Ma

(116) *Ø-ti-tek-tek pira*
3-R-cut-cut fish
'he cut the fish successively' (Franceschini 1999:212)

Me

(117) *ɨa sɨk sɨk*
Lagoon stick stick
'It stuck (the sticks) in the lagoon, and left them there' (Galúcio 2001:105)

Aw

(118) *a-t-etéj-etéj-eyu ɨt-ete*
1-R[2]-dream-dream-progr 1-about
'I dreamed about me' (Monserrat, field notes)

Mk

(119) *Mario epopoa*
Mario e-po(p)-po(p)-a
Mario 3-run-run-IMPERF
'Mario runs' (Braga 2005:61)

Pa

(120) *étígá-té awuru dé torog torog*
just.then-INT dog T/A punching punching

walóy ʃádé mosí n-ŋ̃ãy éká
armadillo IMPF leaf-old SUBORD
'immediately the dog (sat up) then the armadillo punched on the leaves'
(Bontkes 1985:191)

Ka

(121) *kaʔ a ʔ a peʔ ap kãj kãj toʔw a*
ka ʔ a ʔ a pe ʔ ʔa = ap- e ʔ kãj kãj to=ʔ e-wa
house CL.RD LOC 3SG=AUX-IND2 scratc h scratc h (CC=AUX)-GER
'at the house he scratched' (Gabas Jr. 1999:251)

In Tupí-Guaraní languages such as Tupinambá reduplication may be monosyllabic (multiple, successive, or simultaneous action, *-so-sok* 'successively pound') or disyllabic (frequentative, *-moko-mokon* 'swallow many times') (cf. Rodrigues 1953:138). Also, in languages of that familly reduplication triggers phonological processes at morpheme boundaries typical of derivational affixation, such as the loss of C^1 in an extramorphemic C^1C^2 cluster, as well as lenition of final consonants preceding vowels, even though reduplication behaves as a syntactic process in these languages.

Tb

(122) i-apitj-á-pitj-áβo
R^2-kill.many-kill.many-GER
'killing many of them many times'

Finally, Tupí languages display a less common triplication process, which consists in the triple multiplication of a stem or of its last CV sylable, as illustrated by the following data:

Ju

(123) *apɨ́ ul=atxú-txu -txu ulu=bé*
dog 1P.EXCL-bite 1P.EXCL-DAT
'the dog has bitten us more than once' (Fargetti 2001: 181)

Mu

(124) *watwatwan* em pima ip o*ʔ-tujukap*
going.out when 3PL 3-take
'they have taken it while they were leaving' (Crofts 2004:259)

Me

(125) *poret ko-ko-ko te pe=o-iko*
then;now eat-eat-eat FOC OBL=1SG-food
'then I ate quickly' (Galúcio 2001:104)

3.12. Ideophones

Ideophones have been reported for most of the Tupían families such as Arikém (Landin 2005), Mundurukú (Crofts 1985), Rámaráma (Gabas Jr. 1999), Tupí-Guaraní (Seki 2000), Tuparí (Aragon 2008, Braga 2005, Galúcio 2001). Typical of Tupí narrative discourse, ideophones are for the narrators the main linguistic instrument by means of which events are presented in a vivid scenario to be felt by the hearer. Part of that communicative strength is the sound symbolism of the ideophones as well as their reiterative formal expression, by means of vowel lengthening, stem reduplication, triplication, quadruplication and further multiplications, as well as other expressive devices. Although constituting an independent word class, ideophones may fufill adverbial or verbal verbal functions.

Paitér ideophones extracted from a mythical narrative collected by Mindlin:

(126) *prrrroooo* 'sound of a flying skull'
(127) *ug ug ug* 'sound of a speaking shrimp'
(128) *dig dig dig* 'sound of the making of arrows'
(129) *takab takab takab takab* 'sound of an animate entity eating with its bill'

Karitiána (examples from Landin 2005, online version):
(130) *terek terek terek* walking (p.30)
(131) *tet tet* running (p.30)
(132) *horororo* shouting (p.11)

Zo'é (from Cabral's field notes)
(133) *tek tek tek* 'sound of wild pigs'

3.13. Aspects of Proto-Tupían syntax

3.13.1. Word order

For most of the Tupian families the languages are SOV and SV (Rodrigues 1999) in their basic declarative sentences, consistently head final, except in respect to the order N-Adj. Languages with basic word orders other than SOV still display A/SOV order in independent clauses. Guajajára, according to Harrison (1986) has a basic VSO word order, but the SOV order is also found in the same type of clauses. Karitiána presents the basic OSV/SVO word orders in declarative main clauses[21] (Landin 1988; Storto 1999a; Everett 2006) and displays an A/SOV pattern in dependent clauses (Storto 1999a, 2003; Everett 2007), as well as in independent clauses (Everett 2007).

3.13.2. The alignment system of Proto-Tupían and some typological changes along its diversification

In order to cover the distribution of personal markers in transitive and intransitive predicates across the Tupían languages under comparison, we have considered the primitives A (external argument of a transitive predicate), Sa (internal argument of a processual intransitive predicate), So (internal argument of a non-processual intransitive predicate), and O (internal argument of a transitive predicate).

As will be seen, there is a predominance of absolutive alignments across the Tupían languages, some of which display other alignment patterns, attesting historical splits motivated by different factors. Manisfestation of ergativity in Tupían languages was first observed by Landin (1980, 1984), van der Meer (1983), and Harrison (1986) in Karitiána, Suruí, and Guajajára, respectively.

3.13.2.1. Reconstructing the PT alignment system

3.13.2.1.1. The PT set I

Based on cognate personal pronominal morphemes found across the Tupían families, it is possible to reconstruct two sets of personal markers for Proto-Tupían. One of these sets we shall call set I (cf. Cabral 2003):

Table 8 Proto-Tupían Set I personal morphemes

		'1'	'2'	'12(3)'	'13'	'23'
PT		*o	*e	*ʔ	*oɾɨe	*ej-
AR	Ka	ɨ-	a-	(ɨj-)	ɨta-	aj-
	Ar	u-	a-	(ujs-)	?	aj- ~ ajs-
RA	Kt	o-	e-	(iʕ-)	te-	–
PU	Pu	o-	e-	–	–	–
MO	Pa	o-	e-	–	(toj-)	méj-
	Gv	o-	e-	–	(toj-)	me-
TU	Tu	o-	e-	–	osé-	wat- (< ewat- < ejat)
	Me	o-	e-	–	ose-	ejat-
	Ak	o-	e-	–	otʃe-	(e)jat-
	Ma	o-	e-	–	te	(eki)
JU	Ju	o	e	–	udi	–
MU	Mu	o	e	(w)ej-	otʃe	ej
MA	Mw	o-	e-	(wa-)	–	ej-
AW	Aw	o-	e-	–	–	(eʔi-)
TG	PTG	–	*e-	–	*oɾo-, *oɾe	*pejepe

We assume that Proto-Tupían also distinguished a first person inclusive (12(3)) from the first person exclusive (13), since this distinction is found across all families, although only the phonological form of the latter can be reconstructed on the basis of existing cognate morphemes in Arikém, Tuparí, Ramaráma, Jurúna, Mundurukú, and Tupí-Guaraní. As to the first person inclusive, we tentatively reconstruct a form *Vj- on the basis of Arikém, Mundurukú, and Mawé, as well as PTG *ja-* (< *aj-*?). Among the reconstructed personal forms of PT set I, the second person singular is the only one retained in all families, although not with the same distribution. The charts below illustrate the reflexes of PT ***e* in languages of all Tupí families in Sa (Chart 1) and in O (Chart 2) function:

Table 9 Personal morphemes from Set I in S function

PT		**e kʲet	/2 sleep/	'you sleep'
AR	Kt	*a-kat*	/2-sleep/	'you sleep'
	Ar	*a-kat-*	/2-sleep/	'you sleep'
RA	Kt	*e-ket-*	/2-sleep-Ind.I/	'you sleep'
TU	Tu	*e-er-*	/2-sleep/	'you sleep'
	Ma	*e-er-*	/2-sleep/	'you sleep'
	Me	*e-er-*	/2-sleep/	'you sleep'
	Ak	*e-er-*	/2-sleep/	'you sleep'
MO	Pa	*e-ket*	/2-sleep/	'you sleep'
	Gv	*e-ket*	/2-sleep/	'you sleep'
MU	Mu	*e ʃet*	/2-sleep/	'you sleeBp'
MA	Mw	*e-re-ket*	/2-MV-sleep/	'you sleep'
AW	Aw	*e-tet-*	/2-sleep/	'you sleep'
TG	PTG	**e-kʲet*	/2-sleep/	'sleep!'
		**e-tsém-a*	/2-go.out-GER/	'going out'

Table 10 Personal morphemes from Set I in O function

PT		***e-top*	/2-see/	'see you'
AR	Kt	*a-soʔo-*	/2-see-/	'see you'
RA	Ka	*e-top*	/2-see/	'see you'
TU	Tu	*e-sop-*	/2-see/	'not seeing you' 'see you'
	Ma	*e-to(p)-*	/2-see/	'see you'
	Me	*e-so(p)-*	/2-see/	'see you'
	Ak	*e-tʃo(p)-*	/2-see/	'see you'
MO	Su	*e-(ikin)*	/2-see/	'see you'
	Gv	*e-(ikin)*	/2-see/	'see you'
MU	Mu	*e tɨp e təp*	/2-see/	'see you'
MA	Mw	*e-tup*	/2-see/	'see you'
AW	Aw	*e-tup-*	/2-see	'see you'
TG	PTG	**e-tʃup-awame*	/2-R²-pinch-NLZ-SUB/	'if (somebody pinches you, you …)'

We take the distribution of the reflexes of PT set I in modern Tupían languages as the main foundation for reconstructing this set as having had an absolutive distribution in the proto-language. The Arikém, Ramaráma, and Tuparí families show consistently the reflexes of PT **o* '1', **e* '2', **orʲe* '13' and **ej-* '23' in Sa, So and O functions. These are the only languages where the reflexes of PT set I are all found in one single set and are clearly distributed in an absolutive pattern. On the other hand, in the languages of the Mundurukú, Mawé, Awetí, and Tupí-Guaraní families they are found in more than one personal set.

Table 11 Proto-Tupían Set I personal morphemes covering an absolutive function in the argument structure of predicates headed by verbs and by nouns (substantives or adjectives)

	Arikém		Ramaráma	Tuparí			
	Kt	Ar	Ka	Tu	Me	Mk	Ak
'1'	ɨ-	u-	o-	o-	o-	o-	o-
'2'	a-	a-	e-	e-	e-	e-	e-
'12(3)'	ɨj-	ɨj – ~ ɨjs-	ʔi-	ki-	ki-	ki-	ki-
'13'	ɨta-	?	te-	ote- ~ ot- ~ o-	ose-	te-	otʃe-
'23'	aj-	aj- ~ ajs-	karo-	wat-	ejat-	eki-	(e)jat-
'3'	Ø-	i-		i- ∞ s-	i- ∞ s-	i-/Ø-/t-	i- ∞ tʃ-
'3ms'			ʔa-				
'3fs'			ŋa				
'3imp'			i-				
'3pl'			tap-				
'3corr'		ta-	to-	te-	se-		tʃe-

Some examples illustrating the absolutive distribution of set I in these languages are the following:

Kt

(134) *ɨ-ta-otɨ-j* *ɨn* *uio* *ɨn* *a-taka-mi-j* *an*
1-AFFIRM.-bathe-T 1 1 2-AFFIRM-kill-T 2
'I will bathe' (Landin 1984:232) 'I will kill you' (Landin 1984:232)

Am

(135) *u-ud* *un*
1-come 1
'I am coming' (Nimuendajú 1932:113)

Ka

(136) *o-ket-t*
1-sleep-IND.I
'I slept' (Gabas Jr. 1999:167)

(137) *o-peʔ-ket-t*
1-OPT-sleep-IND.I
'let me sleep' (Gabas Jr. 1999:71)

Tu

(138) *o-kaɾ-a* *on*
1-fall-IND 1
'I fell down' (Alves, field notes)

(139) *e-to-a* *on*
2-see-IND 1
'I see you' (Caspar & Rodrigues 1957)

Ma

(140) *e-teɾ-a* en
2-go-IMPERF 1
'you go' (Braga, field notes)

(141) *e* pea*ɾ-a* on
1 look.for-IMPERF 1
'I look for you' (Braga, field notes)

The Jurúna family retains reflexes of two PT set I markers in accusative function, whereas the Mondé languages retain *o-, e-* and *mej-* as reflexes of PT ***o-, **e-* and ***ej-* in a correferential function.

Ju

(142) *ena* *u-djíkaku* *u-bé*
2S 1SG-bater 1SG-DAT
'you hit me' (Fargetti 2001:211)

(143) *ona* *e-djíkaku* *e-bé*
1SG 1SG-bater 1SG-DAT
'I hit you' (Fargetti 2001:211)

Pa

(144) *e-pàkò*
2-wake.up
'you woke up'
(van der Meer 1982:42)

(145) *o-tágõ̀*
1-be.tired
'I am tired'
(van der Meer 1982:52)

The Mawé language retains *o-* as a reflex of PT ***o-*, *e-* and *ej-* respectively as reflexes of PT ***e-* and ***ej-*. These three forms are part of a paradigm, which codifies So and O.

(146) u *i-po:ɾo*
1 R1-be.old
'I am old' (Franceschini 1999:106)

(147) *u* *i-mo-ŋɨt* *en*
1 R1-CAUS-fear 2
'you frighten me'
(Franceschini 1999:175)

The reflex of PT ***e-* is also found in a personal set with the functions of A and Sa:

(148) *e-ɾe-potpa:p*
1-MV-work
'you work'
(Franceschini 1999:184)

(149) *e-ti-koi* *maniok*
1A-R2-plant manioc
'you planted manioc'
(Franceschini 1999:116)

In Awetí the reflexes of PT set I **e- and *ej- are found in three different sets: a set marking A, a set marking Sa, and a set marking So/O:

(150) *e-t-ẽtú p ujá*
2-OB-listen this
'you listened to this one'
(Monserrat 1976:7)

(151) *e-to*
2-go
'you go' (Monserrat 1976:4)

(152) *e-tuʔú mõj*
2-OB-bite snake
'the snake has bitten you'
(Monserrat 1976:9)

(153) *ej-akúp-eju*
2-hot-PROGR.
'you (pl.) are hot'
(Monserrat 1976:10)

The Tupí-Guaraní family retains *e- and *oɾé*, respectively from PT **e and **oɾʲé*, although distributed in different sets: in the imperative set, codifying Sa and A (when the object is third person), as well as in a co-referential set codifying S and O:

(154) **e-kʲét*
2-sleep
'sleep!'

(152) **e-i-nupã*
2-R[2]-hit
'hit it!'

(155) **e-čý-a*
2CC-mother-ARG
'your own mother'

Reflexes of PT *oɾʲé* are found in a set which codifies So and O:

(156) **oɾé *Ø-čém-amme*
13 R[1]-leave-PROJ-LP
'when we leave …'

(157) **oɾé Ø-nupã*
13 R[1]-hit
'they hit us'

The Arikém, Tuparí, and Ramaráma families are the only ones in which all reflexes of the reconstructed PT set I display consistently an absolutive pattern. All other families retain one or more reflexes of the reconstructed forms in different sets, each one of these related to a particular function. In TG, a single reflex of PT set I (*e- < **e) is a member of two sets, one of them made up of co-referential marks and the other constituted by nominative marks used in the imperative mood. Another TG reflex of PT set I (**oɾe* < **oɾʲe*) is found in a set consisting of absolutive personal pronouns. The Jurúna family retains the reflexes of PT set I in a single set, displaying an accusative function. In Awetí, the reflexes of PT set I are found in four different sets: a set marking A, a set marking Sa, a set marking So, and a set marking O. Finally, in Mawé the reflexes of PT set I are found in two sets, one with a nominative function, and the other codifying So and O. The charter below summarizes the distribution of the reflexes of PT set I in the languages of different families.

Table 12 The reflexes of PT personal marks in verbs

Family	Language	Function			Type of alignment system			
AR	Karitiána	Sa	So	O	Absolutive			
RA	Káro	Sa	So	O	Absolutive			
TU	Tuparí	Sa	So	O	Absolutive			
	Makuráp	Sa	So	O	Absolutive			
	Mekéns	Sa	So	O	Absolutive			
	Akuntsú	Sa	So	O	Absolutive			
MO	Paitér	Sa			Correferential			
	Gavião	Sa			Correferential			
JU	Jurúna			O	Accusative			
MU	Mundurukú	A, Sa	So	O	Nominative		Absolutive	
MA	Mawé	A, Sa	So	O	Nominative		Absolutive	
AW	Awetí	A, Sa	So	O	A	Sa	So	O
TG	Proto-TG	A, Sa	So	O	Nominative	Correferential		Absolutive

As said above, we take the distribution of the reflexes of PT set I in modern Tupían languages as the main foundation to reconstruct an absolutive distribution in the proto-language. According to our hypothesis, the Arikém, the Tuparí, and the Ramaráma families are the most conservative in this respect, whereas all other families have innovated in different directions, although keeping various manifestations of the old absolutive pattern.

Taken into consideration that only two sets of personal markers are re-constructible for PT, and that in all languages there are reflexes of set I combined with verb stems marking Sa and O, we assume that the argument structure of PT should have had an absolutive pattern. Since the reflexes of PT set II in the great majority of modern Tupían languages may mark emphatically A, Sa, So, and O, we posit that in PT it was not associated with a specific function.

3.13.2.1.2. PT set II

We propose the reconstruction of a second set of personal markers for PT, which we shall call set II. As in the case of PT set I, only four personal pronominal markers can be reconstructed for PT on the basis of data representative of all families: **on* '1', **en* '2', **oɾ͡je* '13', and **ej* '23'.

As it is the case of the PT first person inclusive clitic, a PT first person inclusive pronoun cannot be reconstructed due to the lack of cognate forms, but, since all languages have a form codifying this person, there are good chances that PT would have had one. In the Arikém family set II personal pronouns, whose forms in their majority are reflexes of PT set II, mark A, Sa, So, and O. The same set is also used as the object of some postpositions:

Table 13 Set II personal morphemes

		'1'	'2'	'12 (3)'	'13'	'23'
PT		**on	**en	**12(3)	**orʲe	**ej
AR	Kt	ɨn	ãn		ɨta	ajja
	Am	on	an	(?)	ujta	ajta
RA	Ka	on	en		te-	– kaʔto
PU	Pu	ʔon	ʔen	–	(?)	(?)
MO	Pa	on-	en-	pan	tój	méj
	Gv	on-	en	panój	tój	menój
TU	Tu	on/one	en/ene	kite	ote-	wat-
	Me	on	en	kite	ose-	ejat
	Ak	on	en	kitʃé	otʃe-	ejaté
	Ma	on	en	Kⁿta	tenyã	eki
JU	Ju	una. na	ena	si	udi	ese
MU	Mu	on	en	wuy	otʃe(djɨ)	ei(djɨ)
MA	Mw	uj-to	en	aj-to	uɾu-to	e- ej-pe
AW	Aw	i-to	ʔen	(ka-/ti-)	?	eʔipé
TG	PTG	–	ené	(ja-/ti-)	*oɾé	*pejepé

Kt

(158) *ãn i oky-t sojja hy*
2 It kill-tense(+PAST) Pig question
'did you kill the pig?' (Landin 1984:241)

(159) *ãn y-ta-oky yn*
2 1-DECL-kill/hurt 1
'you will hurt me' (Storto 1999a:157)

(160) *yn a-ta-oky an*
1 2-DECL-kill/hurt 2
'I will hurt you' (Storto 1999a:157)

(161) *y-ta-opso-t yn*
1-DECL-listen-NFUT 2
'I listened' (Storto 1999a:157)

(162) *a-ta-opso-t an*
2-DECL-listen-NFUT 2
'you listened' (Storto 1999a:157)

Am

(163) *i-asyúku* un
3-shoot 1
'I have shot' (Nimuendajú 1932:115)

(164) *u-tati un*
1-go 1
'I go' (Nimuendajú 1932:115)

The same distribution of the reflexes of PT set I is found in the Tuparí family:

Tu

(165) *o-kaɾ -a on*
1-fall-IND 1
'I fell down' (Alves, field notes)

(166) *e-kaɾ -a en*
2-fall-IND 2
'you fell down' (Alves, field notes)

(167) *kyɾ-e t õ-ʔeɾa on*
child-DEF CAUS-sleep-THEME 1
'I made the child sleep' (Alves 2004:229)

(168) *o-ʔeɾom on*
1-sleep-NEG 1
'I do not sleep' (Alves 2004:276)

(169) *Tuparí on*
Tuparí 1
'I am Tuparí' (Alves 2004:225)

(170) *oɾ-e n i-to-at*
1-DEF R^2-see-NZR
'it was I who saw it' (Alves 2004:225)

Me

(171) *ameko so-aɾ =on*
dog see-V.T.-PAS. =I
'I saw the dog' (Galúcio 2002:275)

(172) *on i-so-a-t (on)*
1 1-see-THEME-PAST (1)
'I saw it' (Galúcio 2001, p. 81)

(173) *ẽt te o-i-sop ikãõ*
2 FOC 1SG-O-see at that time
'It was you that I saw at that time' (Galúcio 2002:277)

Mk

(174) *on kake kex-ng-a*
1 basket tear-EFF-IMPERF
'I tear the basket' (Braga, personal communication)

(175) *on (koa) kito*
1 EMPH man
'I am a man' (Braga, personal communication)

Ka

(176) *caɾa=tem ón*
tall=ADVZ 1SG
'I am tall' (Gabas Jr. 1999:106)

(177) *pecép=tem ẽn et jõm kõm*
ugly= ADVZ 2SG 2SG father SIMIL
'you are ugly like your father' (Gabas Jr. 1999:129)

(178) *õn wat kaʔa ʔa kə-t cagáro kõm=tem*
1SG 1SG.POSS house CL.RD walk-IND.I two X=ADVZ
'I have two houses' (Gabas Jr. 1999:108)

Gabas Jr. (1999:105) states that in Káro, in intransitive commands, the "addressee is generally unspecified (because it is recoverable from context)". Some of the examples given by Gabas Jr, illustrating the optional use of the reflexes of PT set II, are:

(179) *tap=top-a (ẽn/kaʔto) ʔõn ip ʔɨy-t*
3PL=see-G ER (2sg/2pl) 1SG fish get-IND.I
'watch them!' 'did I always get fish?' (Gabas Jr. 2002:263)

(180) *wat manikap pe-a (en/kaʔto)*
1SG.POSS hammock make-GER (2SG/2PL)
'make my hammock!' (Gabas Jr. 2002:263)

In Paitér the reflexes of PT set II have become grammaticalized as verbal prefixes marking O, IO, and the possessor (-reflexive). An indication favoring this hypothesis is the nasalization of initial voiceless stops in stems inflected for first and second persons in any of these functions:

(181) *e-ŋáne ʃíter* (< *-káne*)
2SG-like INTENS
'(I) like you very much' (van der Meer 1985: 221)

(182) *nán átiná e-ŋabi (<-kabi)*
what Q 2SG-for
'what (relative) is he to you?' (van der Meer 1985: 222)

(183) *mated* *ó-ni-ʔen-dé (< -ti)* *nití* *máŋa* *é*
yesterday 1-mother-EMPH-PERF basket make DECL
'yesterday my mother made a basket' (van der Meer 1985:223)

The Paitér language developed a new set of emphatic forms by combining the reflexes of PT set I and the morpheme *-en*:

(184) *o-en*
1-EMPH
'it's me' (van der Meer 1982: 218)

(185) *o-en* *é-jkín*
1-EMPH 2-see
'it's me who sees you' (van der Meer 1982:218)

Gavião, another language of the Mondé family, retained reflexes of PT set I with emphatic functions:

(186) *è* *bó* *on* *nekó* *póhj* *aka* pó-á
DEM CN 1SG=AXDN cat big kill ATC-FN
'so, I got to kill a jaguar' (Stute 1985:20)

Mu

(187a) *on* *w* *eɾon*
1 IND 1SG. be.lazy
'I am lazy' (Angotti 1998:21)

(187b) *ejjə* *kape-di* *epe* *ti-kon-at* *oče-we-be*
23IND coffee-CLASS 23A CLASS-drink-CAUS 13O-REFL-LOC/DAT
'you made us drink coffee' (Angotti 1998:41)

The Awetí language also makes an emphatic use of independent pronouns, as shown by the following examples given by Monserrat:

(188) *Tsãpit* *a-tup* *(itó)*
Tsãpit 1A-see (1)
'I saw Tsambit' (Monserrat 1976:15)

(189) *(itó)* *i-túp* *Tsãpít*
(eu) 1O-see Tsãpít
'Tsambít saw me' (Monserrat 1976:10)

In the Tupí-Guaraní family the set of independent forms has a very productive emphatic function, as shown by examples of languages from all branches of the family:

Ax

(190) *(ené)* *eɾe-ón* *ɾaʔé*
2 2-come AT.REC
'you came'

(191) *(oɾé)* oɾ *o-nupã*
(13) 2-hit
'we hit you'

3.13.3. Coordination

Coordination in the Tupían languages consists in the simple juxtaposition of clauses (cf. Everett 2006) and overt coordinating devices are marginal.

Me
(192) *sete set neaɾa pɨbot neaɾa*
he/she go.SG.SU again arrive again
'he went again and arrived there' (Galúcio 2001:194)

In Karitiána, as described by Everett (2006), a null argument of a coordinated clause may refer to S, A, and O.

Kt
(192) *pɨɾ-otam-ɨn ɲõnso taso naka-pɨ dn-Ø Ø*
VEB.FOC-arrive-NFUT woman man NSAP-kick-NFUT O
'the woman came and the man kicked her' (Everett, 2006:380)

(193) *pɨɾ-otam-ɨn ɲõnso Ø naka-pɨ dn-Ø taso*
VEB.FOC-arrive-NFUT woman A NSAP-kick-NFUT man
'the woman came and the man kicked her' (Everett, 2006:380)

(194) *pɨɾ-otam-ɨn ɲõnso Ø pɨɾ-a-pɨdn-Ø Ø*
VEB.FOC-arrive-NFUT woman A VEB.FOC-PASS-kick-NFUT O
"The woman came and was kicked" (Everett, 2006:380)

Pa
(195) *óy déh kah mekó de óy aka é*
man PERF go jaguar PERF man kill DECL
'the man went and the jaguar killed him' (van der Meer 1985:210)

3.13.4. Subordination

Subordination in Proto-Tupían consisted in an adverbial expression, originally made up of a nominal predicate modified by a morphological suffix or by a post-position, conveying a meaning of conditionality, simultaneity, purpose, or relative sequence with regard to the main predicate (cf. Rodrigues and Cabral 2006):

Aw
(196) *i-tó-eʔɨ m-ɨwo motáŋ ʔú-a w o-mayõ tút*
3-NEG-IF medicine eat-GER 3-DIE go
'if he does not take medicine he will die' (Monserrat, field notes)

Me

(197) *tɨero obaat ka abese o-ti-ora õt kwayõpi=bõ*
chicha much ingest if/wjem 1SG-urinat-go 1 night=DAT
'If/when I drink lots of chicha, I urinate at night' (Galúcio 2001:198)

Note that the Mekéns particle *abese* of the example above has in its basis a reflex of PT nominalizer **-*ap* and the postposition *ese* (< **-*etsé* 'relative').

Mk

(198) *O ateraet me on e pe apitera*
O+atet-ap-et me on e+pe+ apitet-a
1+walk-nzr-GEN LOC 1 2+LOC+ think-IMPERF
'when I walk I think about you' (Braga 2005:175)

At

(199) *né Ø-kató-eté-ramo a-sán ta né Ø-pýri*
2 R1-bom-INTENS-SUB.I 1-vir IMIN 2 R1-junto.de
'when you will be healthy I will come to you' (Cabral e Rodrigues 2002)

The following examples illustrate subordinating constructions with a final and purpose meaning. Notice that the nominalization pattern found in Tupían conditional and temporal subordinating constructions prevails elsewhere in subordination relations.

Mw

(200) *teʔeru-we-'ɨhóp-sat- -há(p)-mo*
3PL.A/MED.+REFL+leaf +take -NZR+finality

raʔɨn ø-tu-wat maués kapé
ASP 3ARG.+MED.+ir/PL Mawés POSTP.
'they went to Mawés in order to get their money' (Franceschini 1999:125)

Aw

(201) *peti'a a-mõj-ju [i-pyw-ap-an]*
pequi 1SA-cozinhar-PROGR [R-mole-NZR-FUT]
'estou cozinhando pequi para ele ficar mole'

Me

(202) *ãsi asisi peropka-a-t [tɨero motkwa-ap na]*
mother milho cook-TEM-PASS [wine make-NZR VERBALIZER]
'my mother cooked maize to make wine' (Galúcio 2001:200)

Gv

(203) *[tó-vít viì-p ná]*
[1(EXCL)-food] cook-NZR VERBALIZER]
'to cook our food' (Moore 1984:183)

Xi

(204) *kuapa ata a'kyɭi yãhã ba*
knife meat cut NZR final/purpose
'the knife which cuts the meat' (R. Rodrigues 1995: 210)

Káro, as we have already mentioned, has an innovative nominalizer of circumstance *kanãp*. According to our hypothesis, the final *p* of the phonological form of *kanãp*, which marks adverbial constructions, is a vestige of an old locative morpheme, no more analyzable. Under this analysis, the Káro construction below correlates with the final adverbial constructions found in other Tupían languages:

Ka

(205) *õn aʔ=wi-t [ø aʔ =top kanãp]*
1SG 3SG=matar-IND.I [3SG 3SG=ver TIME]
'I killed him when I saw him' (Gabas Jr. 1999:158)

We are assuming that PT would have made use of constructions with a nominalized verb stem modified by an adverbial expression. As a noun, such constructions combined with PT set I personal markers (**Set.I V.stem-NZR-Adv). In some Tupían languages, we find reflexes of a PT locative suffix **-*βo* ~ -*mo*. In such languages morphophonological rules triggered at morpheme boundaries led to the fusion of the nominalizer suffix -*ap* and the locative morpheme (**-*ap-βo/mo*). The result of such phonological process would have been then reanalyzed as a single morpheme, which in turn has suffered other phonological reductions. Cabral & Rodrigues (2006) have shown that the Awetí and Tupí-Guaraní adverbial final constructions called *gerund* are derivable from the combination of Proto-Awetí–Mawé–Tupí-Guaraní nominalizing suffix -*ap* and the locative case morpheme -*βo*:

Tupí-Guaraní:

At

(206) *a-sán oro-era-há-w*
1-come 1CORR.-C.C-go-GER
'I came in order to take you (with me)'

Aw

(207) *i-úre ej-atúk-aw*
2IMP-come 2ABS-bath-GER
'come to bath!'

Cabral and Rodrigues have also observed that, although the combination -*áp*+-*βo* had made opaque the boundary between the two morphemes, the resulting material retained the nominal nature of the old suffix -*áp* and the adverbial nature of the old suffix -*βo*. The adverbial nature of such constructions is seen each time they precede the main predicate, since they trigger the Indicative II mood. Cabral and Rodrigues illustrate this with Awetí examples:

(208) *o-ʔapar-eju* *o-tet-aw*
3-be.laying-PROGR 3CORR-sleep-GER
'he is laying in order to sleep'

(209) *o-tet-aw* *nã-to-tu*
3CORR.-sleep-GER R[2]-go-NZR (IND.II)
'in order to sleep he went'

Tupí-Guaraní conservative languages distinguish themselves from the other languages in the family for displaying a switch-reference system contrasting constructions with one and the same subject from those with different subjects. The former came to be called subjunctive clauses and the latter gerundial clauses (cf. Rodrigues 1953, 1981; Jensen 1989; 1999).

3.13.5. Complementation

Nominalizations are the means by which the corresponding sentential complements of main predicates must have been expressed in Proto-Tupían. In modern Tupí languages, nominalizations by means of reflexes of the PT suffix **-*ap* are found in any argumental function. One of these functions is as internal argument of main transitive predicates.

Ma
(210) *João Ø-ti-kuap taʔɨ̀n i-i-kuʔuro-ha(p) muat*
João 3-ACT.T-know ASP. 3-ATTR.2-die-NZR FUT/INCERT.
'João already knew that he would die' (Franceschini 1999:191) or lit. 'João already knew his future death'

Mu
(211) *[apẽn ǰ-aǰẽm ip iap] oʔ-ñuwẽn João*
[these r-arrive 3PL NZR] 3-tell João
'João told they will arrive' (Crofts 1985:261) or lit. 'João told (with respect to) their arrival'

Mk
(212) *on e teraet peka*
on e+tet-a(p)-et peka
1SG 2SG+go-NZR-GEN wish-IMPERF
'I wish your coming' (Braga 2005:172)

Tupí-Guaraní
Tu
(213) *a-s-epják kwár-a Ø-sém-áβ-a*
1-REL-see SUN-ARG REL-go.out-NZR-ARG
'I see when the sun rises'

At
(214) *a-potán né Ø-hem-áw-a*
1-want 2 R1-go.-NZR-ARG
'I want you to leave'

In languages where there are no examples of *-ap* nominalizations as complement objects of main transitive predicates, there are other nominal constructions fulfilling such a function. The Suruí language, for instance, has a construction marked by the morpheme *be ~ pe ~ e*, which functions as the internal argument of a main transitive predicate. Bontkes (1985) analyzes the *be* complement clauses in Suruí as a noun phrase constituent of the independent clause, since there is no tense aspect marker and the intransitive stem combines with prefixes which mark the object.

Pa
(215) *boté o-j [i-ór e] íkin é*
already 1-T/A [3-come COMP] see SM
'I saw him coming' (Bontkes 1985:201)

[o-sob i-ór e] káne líyâ
[1-father 3-come COMP] want HORT
'I want my father to come, please' (Bontkes 1985:200)

Káro is another language, which shows nominalizations in analogous contexts:

(216a) *ẽn [e-ker-a kanã] yaʔti nãn ahɨə*
2SG [2SG-sleep-GER NZR] like COP-IND.I INTERR
'do you like to sleep?' (Gabas Jr. 1999:88)

(216b) *õn [púŋ kanã] yaʔti Nãn*
1SG [shoot NZR] like COP-IND.I
'I like to shoot' (Gabas Jr. 1999:196)

The data discussed so far are the foundations for our hypothesis that in PT nominalizations would have occurred as argument of main transitive predicates, contrasting with other languages, which have finite predicates in that function.

3.13.6. Relativization

Nominalizations were also used as a Proto-Tupí device for expressing noun modifiers.

Mk
(217) *amengko e yipoknga o Xaot*
amengko e+y-i+pok-ng-a o+x-ao-t
dog 2SG+R1-NLZ+kill-EFF-IMPERF 1SG+PRC-pet-GEN
'the dog you are killing is my pet' (Braga 2005:172)

Mu

(218a) *i-wə y ojuyac-at o-ajẽʔ i-ŋuycəŋ*
R2-arrow want-NZR-NZR 3-arrive R2-sad
'the one who would like to arrow him came back sad' (Crofts 1985:221)

(218b) *je-d-əkʔ a be je-xe pin-a(t)-jẽ o-jojojo*
CORR-R1-house LOC MED-enter want-NZR-PL 1-see
'I saw those who wanted to arrive at home' (Crofts 1985:221)

In languages for which relative clauses have been reported, such as Karitiána (Storto 1999a, Everett 2007), the verbal form shows traces of the old Proto-Tupían nominalizer of object (*ti-* < PT ***ts-ep-mi*), as proposed in Cabral, Rodrigues, and Correa da Silva (2006):

Kt

(219) *ãn naka-mi:-t taso Ø ɨn ti-mi:*
2S NSAP-hit-NFUT man O 1SG OFC-hit
'you hit the man that was hitten by me' (Everett 2007:384)

Nevertheless, sentential complements have been reported for Paitér (cf. van der Meer 1985:213):

Pa

(220) *bóté ojé ʃosé dé walój aka éwe íkin é*
already 1SG-PERF José PERF armadillo kill it see DECL
'I already saw that José killed an armadillo' (Van der Meer 1985:213

3.13.7. Negation

All Tupían languages have a predicate negation suffix, which is also in many languages a sentential negation:

Ga

(221) *óh-ka óhv ále-á máh tá-kaj-á kípo-á*
1SG-kill not FUT-FN 3S=AXDN 3P-to-FN NTS-FN
'don't kill me!, he said to them' (Stute 1985:25)

Pa

(222) *été soemã lígá óm-nér oenga*
then bait pull NEG-INTENS 1SG-EMPH-to
'then (the fish) didn't nibble my line' (van der Meer 1985:222)

Me

(223) *e-top kwamoa-ap*
2s-father shaman-NEG
'your father is not a shaman' (Galúcio 2001: 92)

(224) *ameko mi-a-r-ap Pedro*
jaguar kill-them-PAST-NEG Pedro
'Pedro did not kill the jaguar' (Galúcio 2001:93)

Mu

(225) *wenə̃y ʔəm pima ikoõm kəka o'e*
nuts not if insipious be once
'if there was not nuts it would be insipious just once' (Crofts 1985:211)

Ju

(226) *ečuk-á-ma* na
eat-IRR-NEG 1
'I will not eat' (Fargetti 2001:199)

As-T

(227) *i-soka -eʔym-a*
REL-kill-NEG-GER
'by not killing it' (Cabral, field notes)

Tupían languages have other ways of expressing negation, such as proclitics, as in Awetí and Tupí-Guarani, which delimitate a predicate on the left while the nucleus combines with a negation suffix:

Tb

(228) *n o-úr-i*
NEG 3-come-NEG
'he does not come'

Aw

(229) *ʔan a-kwakúp-ɨka e-pot-ʔaká-tu*
NEG 1-querer-NEG 2-INT-quebrar-NZR
'I don't want that you break it' (Monserrat, foeld notes'

3.13.8. Fronting

Fronting is a syntactic strategy widespread across the Tupían languages to focus a constituent. Questioned constituents come in the first position of a sentence (information questions), as it is the case with other focused constituents (cf. Rodrigues 1981; Vieira 1993; Storto 1999a, 2003; Galúcio 2000):

Tu

(230) *ka'are* e-i-top to'é
wjat 2-NLZ-see
'what did you see?' (Rodrigues e Cabral, field notes)

Mk

(231) *arikop* [e j-i-*peat-a]*
what [2 R[1]-NLZ–look.for]
'what are you looking for?' (Braga, Personal Communication)

Me

(232) *arob=ẽp* *te* *te* *e-i-mi*
what=really truly FOC 2-NZR-kill
'what really did you kill?' (Galúcio 2001:275)

Ju

(233) *má* *bi* *dé* *ča*
who with Q eat
'with whom had he eaten?' (Fargetti 2001:226)

Xi

(234) *siu* *de*
sleep Q
'did he sleep?' (R. Rodrigues 2005:154)

(235) *ena* *tɨ* *u* *jãpa* *'daka* *sa* *Anu*
2 Q 1 hammock wash want MODAL
'are you the one who will wash my hammock?' (R. Rodrigues 2005:157)

Zo

(236) *boretá-pe* *ere-ro-hém* piré ehó
how.many-Q 2-CAUS.C-go.out fish AUX.go
'how many fish did you caused to go out?' or 'how many fish have you fished?' (Cabral, field notes)

(237) *tojã* dé r-*ɨrú* d ere-ra-há-j
why 2 R[1]-recipient NEG 2-CAUS.C-ir-NEG
'why didn't you took your gourd?' (Cabral, field notes)

Contrastive focus is also expressed by the contrasted element figuring in the first position of a sentence:

Zo

(238) *tajahu-Ø,* *a-juke* *jawat* *d* *a-juke-tɨte*
wild pig-ARG, 1-kill jaguar NEG 1-kill-REALLY
'wild pig, I killed it, jaguar I really dindn't' (Cabral, field, notes)

3.13.9. Modality

Modality particles are described for various Tupían languages. Tupí-Guaraní languages from subgroups I, IV and VI are those presenting the most complex modality systems, which include epistemic and alethic modalities, associating epistemic modaliies with time notions (cf. Cabral 2000; Gabas Jr. 2002; Cabral 2007).

Kb

(239) *ʔý-pe je Ø-ó-i kó*
water-LOC 1 CONT-go-CIR ATT.I
'I went to the water (attested by the speaker/immediate past)' (Dobson, 1997:41

(240) *oro-piná-etýk-a oré Ø-ó-i ai'í*
13-bait-pull-GER 13 ncont-go-CIR ATT.II
'we went to fish (attested by the speaker/recent past)' (Dobson, 1997:45)

Kb

(241) *o-manũ ekoeteé ikwé*
3-die in vain ATT.III
'he died in vain (attested by the speaker/distant past)' (Dobson, 1988:163)

Kb

(242) *aʔé-ré nipó i-ó-i kwé-pe ra'é*
then INF NCONT-go-CIR there-LOC MED.I
'then, probably, he went there (attested by someone else/immediate past)' (Dobson, 1988:98)

Waud H. Kracke (1989) identifies in Parintintin, a language very close to Kayabí, an oneiric particle *ra'ú*:

(243) *ɲarõ hẽa hẽa raʔú ɨwaté hẽa r-ejár -i*
angry 3F 3F ONR high 3F CONTleave -CIR

ɨ-embé Ø-wɨr-i hẽa Ø-mo-ngó-βo
water-bank CONT-under-SIT 3F CONT-CAUS-be-GER
'she had become angry, she, in the dream, he had left her up, under the river banks, he had left her' (Kracke, 1989:8)

Although languages differ as to the modalities they express, at least one of these is found across Tupían languages, namely the one corresponding to a hearsay word.

3.14. Proto Tupían lexico-semantic categories

Due to the scarcity of lexical documentation for most languages of the Tupían stock, it is too early for systematically exploring the lexico-semantic categories that would reflect knowledge and activities of the speakers of Proto-Tupían some 5,000 years ago. Even though normally this kind of exploration cannot be free of lesser or greater lacunae depending on the time depth involved in the reconstruction, a glimpse into some distinctions emerging from the scarce data available appears to be possible and significative for recognizing some important aspects of proto-Tupían culture. Small as it is, this sample reveals beyond doubt that the Proto-Tupían language, in spite of the deep antiquity estimated, was spoken by a small group of agriculturists, probably not differing too much from their present-day descendants. The meager but significant results so far reached by the comparative study is a clear indication that more work must be invested in systematically gathering the lexicon of all the Tupían languages as yet available to linguistic research, independently of them being very akin to one or other already better known language. In fact none of the surviving Tupían languages has had so far its lexicon extensively recorded, so that any project aiming at covering the lexicon of such languages, or at least significant parts of it, must deserve at least the same priority for funding as any other, purely grammatical endeavour. It is through the historical comparative study of the language families and stocks that we may reach a more detailed knowledge of the remote past of the man in this portion of the Earth.

3.14.1. Color terminology

Only a word for 'red' could be reconstructed so far. This word, ***wop*, has persisted in most families, but its meaning has evolved in Tupí-Guaraní and Awetí (but not in Mawé) *to* 'yellow': TG **juβ* 'yellow', AW *tuw-* 'yellow, orange'; MA *hup* 'red'; JU Xipáya *úp-a* 'ripe'; MU Mundurukú *op* 'ripe'; TU Makuráp *wop*, Mekéns *kop*, Wayoró *ŋkup* 'red'; MO Gavião *vóôp*, Cinta-larga oóp 'red', *op-ɨɨt* 'yellow', Paitér *ob* 'red, ripe', Mondé *up*, Aruá *wup* 'red'; RA *úp* 'red, ripe'; PU *wɨb*, *wəp* 'red'. This only color term so far recognized in almost all descendant languages shows an association between color and the degree of maturity of some fruits, which is well known from other language domains (cf. Portuguese verde 'green' and 'unripe', laranja 'orange fruit', 'orange color', castanho 'brown' from castanha 'chestnut', marrom 'dark brown' from French marron 'chestnut' and 'dark brown').

3.14.2. Kinship terminology, brother-sister terminology

***up* 'father', ***čɨ* 'mother', ***čɨʔɨt* 'mother's sister', ***amõj* 'grandfather', ***aʔɨt* 'man's son', ***memɨt* 'woman's child', ***men* 'husband', ***atʔɨ* 'wife', ***ike* 'man's older brother', ***kɨpʔɨʔɨt* 'man's younger brother', ***kɨpʷɨt*

'woman's brother'. These ten reconstructed terms for consanguineous and affinal kinship show the long life of the words for 'father' and 'mother' and also for 'grandfather', as well as the set of three terms for the brothers: younger and older brother for the man and simply brother for the woman; the corresponding distinction of older sister and younger sister for the woman and simply sister for the man, that rounds up the system in most Tupían languages, could not as yet be reconstructed. While the term for 'husband' was maintained in eight of the ten families, its counterpart for 'wife' was surely retained only in two, TG and AW. In MA it came to be applied for the 'grandmother', whereas the 'mother' receives now a diminutive derivation, namely *-ariʔi* 'small (grand)mother'. The terms in MU -ajši and TU Tu *aɨsi* and Me ajci are apparently compounds of **aʔɨt 'man's son' and **čɨ 'mother', possibly a crossing of such compounds with **atʔɨ 'wife' (this is the reason for taking these compounds as possible cognates of this reconstructed term).

3.14.3. Social roles

**wamu/wamuã 'shaman'. This is the only term for social roles occurring in several language families, but not in more than three; one of these three, however, belongs to the eastern branch of Tupían, while the other two are occidental families. The eastern family is MU with Mu *wamo* and *wamoat* and Ku with *wamu*, the western ones are TU with Me *kʷamoa* and Ma *mamoã*, and MO with Pa *wãwã́*.

3.14.4. House and village

**ekʷ 'house', **ekʷen 'door', **tʔap 'thatch', **upap 'lying place', **eɾĩ 'hammock', **acoʔi 'to cover', **ekʷat 'village patio'.

3.14.5. Agriculture

**ŋo/ŋe 'cultivated field', **čɨt 'digging stick', **mani 'manioc', **awa/awai 'yams (*Dioscorea sp.*)', **wetɨɨk 'sweet potato', **kuɾua 'pumpkin', **pe 'tobacco', **ɾʲuku 'achiote (*Bixa orellana*)', **ɨʔa 'calabash'.

3.14.6. Food gathering

**ekʷʔɨp 'arrow', **wekeʔa 'fish trap', **wɨ 'ax', **ɨɾʲu 'basket', **čʔam 'rope'.

3.14.7. Food processing

**waʔẽ 'ceramic pot', **čɨt 'to bake', **wɨp 'to bake, to cook', **mõj 'to cook', **eʔe 'to grate', **čekʷ 'to pound'.

Abbreviations for languages and families:

Two capital letters for families: AR Arikém, AW Awetí, JU Jurúna, MA Mawé, MO Mondé, MU Mundurukú, PU Puruborá, RA Ramaráma, TG Tupi-Guaraní, TU Tuparí.

A capital and a small letter for languages, but using alternatively the family abbreviation when the family has only one language: Aw or AW Awetí, Ma or MA Mawé, Pu or PU Puruborá; the others are: Aa Aurê-e-Aurá, Ak Akuntsú, Am Arikém, Ap Apiaká, Ar Aruá, At Asuriní do Tocantins (A. do Trocará), Av Avá-Canoeiro, Aw Araweté, Ax Asuriní do Xingu, Ch Chiriguáno (Ava), Cl Cinta Larga, Em Emérillon, Ga Guarani Antigo (Old Guaraní), Gj Guajá, Gk Guayakí (Aché), Gp Guaraní Paraguaio (Avanheém, Avañe'ë, Guaraní), Gr Guajajára, Gv Gavião, Gy Guaráyo (Guaraní boliviano, Bolivian Guaraní), Ju Jurúna, Ka Káro, Kb Kayabí, Ke Kepkiriwát, Km Kamayurá, Kp Ka'apór (Urubú, Urubú-Ka'apór), Kt Karitiána, Ku Kuruáya, Kw Kaiwá (Kayová, Pãi), Mb Mbyá, Me Mekéns (Sakirabiát), Mk Makuráp, Mo Mondé, Mu Mundurukú, Nd Nhandéva (Chiripá), Pa Paitér, Pt Proto-Tupían Parintintím, Rm Ramaráma, Si Sirionó, Su Suruí, Tb Tupinambá, Te Tembé, Tp Tapirapé, Tu Tuparí, Ur Urumí, Uw Uruewawáu, Wa Wayoró (Ajurú), Wy Wayampí (Oyampi), Xi Xipáya, Yu Yúki, Zo Zo'é, Zr Zoró.

Abreviations for grammatical features

ABL = ABLATIVE; ABS = absolutive; ACT = active; ADVZ = adverbializer; AFFIRM = affirmative; A = agent; ARG = argument; ALL = allative; ASP = aspect; ASS = associative; ATT = attested; ATTR.= attributive; ATC-FN = ; AUX = auxiliary; AXDN = dynamic auxiliar; CAUS = causative; CC = comitative causative; CIR = circumstantial; CLASS = classifier; CL.RD = clitic.round; CNOM = nominal constituent; COLL = collective; COMP = complementizer; CN = connective; CONJ = conjunction; COORD = coordinator; CORR = co-referential; C.PREP = prepositive causative; DAT = dative; DECL = declarative; DEF = definite; DEM = demonstrative; DEM.PROX = proximal demonstrative; DIM = diminutive; DO = direct object; EFF = effective; EXCL = exclusive; EMPH = emphatic; F, FEM = feminine; FOC = focus; GER = gerund; GEN = genitive; HORT = hortative; IMIN = iminent; IMP = imperfective; INF = infinitive; INCERT.= incertitude; INCL = inclusive; IND = indicative; IND.II = indicative II; INSTR = instrument; INT = intentional; INTENS = intensive; INTERR = interrogative; INTRVZR = intransitivizer; IRR = irrealis; LD = diffuse locative; LOC = locative; LOC.SIT = situational locative; LP = punctual locative; MED = mediator; MV = middle voice; MOV.PRES = movement.present; N = nuclear case; NEG = negation; NFUT = non future; NLZ = nominalizer; NSAP = non speach act participant voice; OB = object; OBL = oblique maker; OFC = object focus construction; O.FOC = focused object; OM = object marker; ONR = oneiric; OPT = optative; OPT.POSS = optional possessive;

PERF = perfective; PERF = perfective; PL = plural; PP = postposition; POSS = possessive; PRC = relational prefix contiguous; PRNC = relational prefix non contiguous; PROB = probability; PROGR = progressive; PROJ = projective; PROP = purpose; PROSP = prospective; Q = question; R = relational prefix; REC = reciprocal; REFL= reflexive; REP = repetition; RETR= retrospective; SG = singular; SO = singular object; SU = subject; SUB.= SUBJUNCTIVE; SUBORD = subordinator; T = telic; THEM = thematic vowel; TRANS = translative; T/A tense and aspect; VB. = VERB; ∞ = alternance.

Notes

1 Since 1956 Rodrigues has been using the term *linguistic stock* (or its correspondents *Sprachstamm* and *tronco lingüístico*, in German and Portuguese, respectively) for the major genetic unit emerging from the comparison of several linguistic families with demonstrable genetic affinity. By that time Rodrigues has probably been influenced by Loukotka's use of *Sprachstamm* for his reappraisal of the Je languages conceiving a *Tapuya-Žé-Sprachstamm* embracing the *Žé-Sprachfamilie* and other seven *Sprachfamilien* (Loukotka 1942:2–6).

2 Special symbols and abbreviations: † dead language, ! moribund language (language with less than ten speakers or only rememberers); countries: AR Argentina, BO Bolivia, BR Brazil, CO Colombia, FG French Guyana, PA Paraguay, VE Venezuela; Brazilian states: Ac Acre, Al Alagoas, Am Amazonas, Ba Bahia, Ce Ceará, Es Espírito Santo, Go Goiás, Ma Maranhão, Mg Minas Gerais, Mt Mato Grosso, Ms Mato Grosso do Sul, Pa Pará, Pb Paraíba, Pe Pernambuco, Pr Paraná, Rj Rio de Janeiro, Rn Rio Grande do Norte, Rs Rio Grande do Sul, Sc Santa Catarina, Se Sergipe, Sp São Paulo, To Tocantins.

3 In this presentation we will use for the Tupí-Guaraní family the phonemes and morphemes already reconstructed for the proto-language of this family, Proto-Tupí-Guaraní, which will be marked by a single asterisk *. In order to distinguish these Proto-Tupí-Guaraní phonemes and morphemes from the reconstructions proposed for the common parent language of the whole Tupían stock or Proto-Tupían, these will be marked by a double asterisk **. The languages from which illustrations are taken will be identified by their abbreviated names preceded by the abbreviation of the respective family (RA Ka *ék* 'inside' = *ék* means 'inside' in the language Káro of the Ramaráma family) or simply by the abbreviation of the family, if this has only one language (AW *ok* 'house' = *ok* means 'house' in the language Awetí of the Awetí family).

4 In the previous version of the reconstructive work (Rodrigues 2007) prenasalized voiceless stops were proposed for PT in addition to the fully nasal ones, but a better scrutiny of the available examples suggests a complementary distribution, so that only one nasal phoneme needs to be reconstructed for each articulation point.

5 This change would have motivated the generalization of the pattern [determiner Ø- determined] from class I to stems from class II.

6 V stands for the first vowel of a stem.

7 The combination in these languages of verbal stems with relational prefixes may have increased by the productive nominalization processes characteristic of Tupí languages.

8 Karo seems to be an exception to this.

9 Cf. C. Everett (2007:306).
10 *i-to motaŋ-upap-ɨpe me motaŋ-ʔu-aw* 'go to the pharmacy to get medicine'.
11 Note that Kokáma, a language which emerged from a contact between speakers of a conservative Tupí-Guaraní language close to Tupinambá and speakers of non-Tupí languages (Rodrigues 1985, Cabral 1995, 2001, 2004, 2007) has a suffix *-ka* 'locative' instead of an expected suffix *-pe*. This fact about the Kokáma/Omágua language suggests two hypotheses: (a) the Kokáma suffix *-ka* is a relic from the Tupí-Guaraní language which has contributed to the raising of the Kokáma/Omágua language, or (b) another Tupí language, not Tupí-Guaraní, has also been present in the social scenario from where the Kokáma/Omágua language developed, as suggested by Cabral (2007).
12 Note that the postpositions *-koti/-kati/-kɨti* found in Tupí-Guaraní languages and *-kɨti* 'dative' found in Awetí suggest a formative *ko* in their basis.
13 Galúcio treats this morpheme in Mekéns as a verbalizer, as does Moore with respect to its cognate in Gavião.
14 Storto (2002:434) presents six of these cognate forms, whose meaning she interpretes as 'small'.
15 Nouns in Káro, as described by Gabas Jr. (1999:41), are not inflected for gender, number or case.
16 According to Vieira (1993:45–46) " … the Asuriní words translated as demonstratives do not belong to the category of determiners, i.e. do not serve to introduce nominal expressions. The Asuriní demonstratives are according to our view adverbial expressions which function as deitics as they point out objects to the linguistic discourse and are best translated as 'here' and 'there' instead of 'this' and 'that'.
17 These correspond to Dixon's extended intransitive and transitive verbs.
18 Cf. Vieira (to appear) for an analysis of the corresponding morpheme in Mbyá as an applicative morpheme.
19 Storto (2005) proposes that Karitiana has a single *ti-*, cognate of Karo *i-*, Mekéns *i-* and PTG **r-*, which she considers as reflexes of a PT inverse morpheme ***ti-*, a proposal not supported neither by the phonological reconstruction proposed by Rodrigues for PT, nor by the grammatical facts presented in this work.
20 Mawé prefix *ti-* marking the object of a specific class of transitive verbs (cf. Franceschini 1999).
21 Storto (1999a:126) states that "The word order in Karitiána dependent clauses is SOV in mythical narratives, and OSV otherwise."

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Languages of the Middle Andes in areal-typological perspective: Emphasis on Quechuan and Aymaran

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1. Introduction[1]

Among the indigenous languages of the Andean region of Ecuador, Peru, Bolivia, northern Chile and northern Argentina, Quechuan and Aymaran have traditionally occupied a dominant position. Both Quechuan and Aymaran are language families of several million speakers each. Quechuan consists of a conglomerate of geographically defined varieties, traditionally referred to as Quechua "dialects", notwithstanding the fact that mutual intelligibility is often lacking. Present-day Aymaran consists of two distinct languages that are not normally referred to as "dialects". The absence of a demonstrable genetic relationship between the Quechuan and Aymaran language families, accompanied by a lack of recognizable external genetic connections, suggests a long period of independent development, which may hark back to a period of incipient subsistence agriculture roughly dated between 8000 and 5000 BP (Torero 2002: 123–124), long before the Andean civilization attained its highest stages of complexity.

Quechuan and Aymaran feature a great amount of detailed structural, phonological and lexical similarities and thus exemplify one of the most intriguing and intense cases of language contact to be found in the entire world. Often treated as a product of long-term *convergence*, the similarities between the Quechuan and Aymaran families can best be understood as the result of an intense period of social and cultural intertwinement, which must have pre-dated the stage of the proto-languages and was in turn followed by a protracted process of incidental and locally confined diffusion. It stands to reason to assume that the initial interaction between the two language groups took place within a relatively limited geographical space, which may have been situated in the mountains and sections of the coast of Central Peru. It may have extended as far north as the department of Ancash, with its influential archaeological center at Chavín (1st millennium BC), and southward into the highlands of Ayacucho and along the Pacific coast, where the Pre-Columbian cultures of Paracas (± 600 BC–200 AD) and Nazca (± 200–700 AD) flourished. In this central Peruvian area, there are few traces of indigenous languages not belonging to the Quechuan and Aymaran families, in spite of recurrent reports of multilingualism in early colonial chronicles. Possibly, the impression of multilingualism among colonial observers is to be interpreted as a reflection of linguistic variation within the Quechuan and Aymaran families themselves, although this partly remains a matter of speculation. Other languages native to the Andean region were

mainly found at the northern and southern peripheries of the Quechuan-Aymaran domain. Most of these groups have succumbed to the direct or indirect pressure of the two major indigenous language families or to Spanish, the language of the European colonizers who conquered the area in 1532. The Andean region as delineated at the beginning of this introduction represents an area with an originally high genetic diversity that achieved an apparent uniformity through the dominance of just a few of its endemic language groups (Quechuan and Aymaran) and an intrusive language (Spanish).

The geographical area covered by this chapter on Andean languages is henceforth referred to as the *Middle Andes*.[2] It roughly coincides with the boundaries of the Inca Empire (*Tawantinsuyu*) in its final stage (± 1470–1532), and also with the maximal expansion of the Andean civilization. This civilization was based on an age-old cultural and economic interaction which had its roots in north-central Peru in the 3rd millennium before our era.[3] Areas further to the north and south, such as Ecuador, Colombia, central and southern Chile, as well as most of Argentina, did not play a significant part in these early developments. At the time of the Spanish conquest, however, the Andean and coastal regions of Ecuador, and northern Chile, as well as the Andes of Bolivia and northwestern Argentina were firmly integrated within a Middle-Andean area of socio-political and cultural interaction. To the east, most of the Middle Andes is confined by the Amazonian region, the eastern Bolivian lowlands and the Gran Chaco. From an ethnographic point of view, the boundaries with these areas are diffuse. It is therefore useful to include some discussion of the languages spoken in these transitional areas in an overview of Middle Andean languages.

The purpose of the present chapter is to explore the typological profile of Quechuan and Aymaran, as well as the typological environment in which these language families have been situated over time, both from a historical and from a spatial perspective. In the absence of demonstrable genetic relationships, a comparison of the typological characteristics of the languages of the Middle Andes with those of their neighbors and former neighbors can provide an insight into the contact history that may have contributed to their formation. Understandably, at this exploratory stage, it will not be possible yet to reach firm conclusions, so this chapter will retain the character of a first inventory. Our exploration has the following structure: It starts with an overview of the Andean languages and the languages of surrounding areas with which they may have been in contact for geographical reasons (Section 2). Secondly, a brief sketch is given of the historical developments that are important for understanding the language situation in the Middle Andes (Section 3). Some issues concerning genetic classification and linguistic diffusion that are relevant to the Middle Andean situation are discussed in Section 4, and an interpretative model of Quechuan-Aymaran contact history is briefly introduced in Section 5. The subsequent sections deal with particular aspects that are characteristic of the (non-genetic) relationship that exists between

Quechuan and Aymaran: structural similarities (Section 6), structural differences (Section 7), phonological coincidence (Section 8), and lexical overlap (Section 9). Issues in which possible typological relations external to the Quechuan-Aymaran complex are involved are treated in the sections Section 10 (phonological features) and Section 11 (morphosyntactic features). Finally, section Section 12 deals with some external typological relations that involve Andean languages other than Quechuan and Aymaran.

2. Overview of the languages

Considering the internal diversification of each group, both Quechuan and Aymaran have to be treated as language families, rather than as single languages. This fact is only partly reflected in the current terminology. The *Aymaran* family comprises at least two living languages. One of them is *Aymara*, spoken by more than 2,000,000 people in Bolivia (departments of La Paz, Oruro, Cochabamba and Potosí), in southern Peru (departments of Moquegua, Puno and Tacna) and in northern Chile (region of Tarapacá). Dialect diversity within the Aymara language area is believed not to exceed the level of mutual intelligibility, but much research remains to be done in this field.

The other extant Aymaran language is *Jaqaru*, spoken in the village of Tupe and neighbouring hamlets in the province of Yauyos (department of Lima, Peru) by somewhat more than a 1000 people. A third variety, *Cauqui* (*Kawki*), is spoken by a few elderly people in the village of Cachuy, not far from Tupe. It is treated as a separate language by Hardman (1978, 2000: 1) but is reported to be only dialectally different from Jaqaru by Cerrón-Palomino (2000: 63–65). Aymara and Jaqaru differ considerably and their status as separate languages is not in doubt. The two languages are also referred to as *Southern Aimara* and *Central Aimara*, respectively (Cerrón-Palomino 2000).

Apart from Aymara and Jaqaru, the Aymaran language family must have comprised a number of extinct varieties, whose existence can be inferred from mentions in historical sources and from toponymy. Such extinct varieties were found in the southern highlands of Peru (departments of Ayacucho, Arequipa, Cuzco, etc.) and in the highlands of the department of Lima. Torero (2002: 129) observes that some of these varieties were not recognized as Aymaran by the authors who mention them.[4] They may have been significantly different from the language underlying modern Aymara, to which Torero assigns a homeland situated near Vilcashuamán in the basin of the Río Pampas at the boundary between the Peruvian departments of Ayacucho and Apurimac. This predecessor of present-day Aymara would have expanded southward in a very short time, replacing other languages, both related and unrelated. In the 16th century, Aymara covered most of the Bolivian highlands, including large areas in the departments of Cochabamba, Oruro,

Potosí and Sucre that are now Quechua-speaking. The Aymaran family has alternatively been referred to as *Jaqi* (Hardman 1978, 1985) and as *Aru* (Torero 1970, 2002).[5]

The internal diversification of the "Quechua" language group justifies its qualification as a language family within the same right as Aymaran. It comprises a large variety of dialects, spoken by a totality of some 8,000,000 speakers. On the basis of mutual intelligibility tests carried out in the 1970s, Torero (2002: 85) recognizes the existence of at least seven Quechua "languages", all of them dialectally diversified. However, there is a firmly established tradition of referring to all Quechuan varieties as "dialects", mostly identified by the name of the region or community where they are spoken (e.g. *Cajamarca Quechua*, *Cuzco Quechua*, *Pacaraos Quechua*, etc.). Only a few varieties are known by specific names, for instance, *Huanca* for the variety of the Mantaro valley in Peru, *Lamista* for the variety of the area of Lamas in the department of San Martín, Peru), *Inga(no)* for Colombian Quechua, *Cuzco* for the Santiago del Estero variety spoken in Argentina, *Quichua* for the Ecuadorian varieties but also for several other varieties in Argentina and Peru. The use of the denomination "Quechuan", with the ending '*-(a)n*', has not been common, mainly because there is no particularly variety of Quechuan more entitled to be called "Quechua" than any of the others. The name *Quechuan*, nevertheless, is useful for distinguishing reference to the whole family of Quechuan varieties (languages and dialects) from the use of "Quechua" in reference to individual varieties. It should be observed that the variety of Cuzco is thought to represent the "official" version of Quechua by most of its speakers and by the Cuzco-based Quechua Language Academy (*Academia Mayor de la Lengua Quechua*). In the perspective of that institution, an inferior status of "mixed" or "corrupt" dialects is often attributed to all the remaining varieties of Quechuan.

A majority of the Quechuan varieties have been assigned to two main branches (Parker 1963; Torero 1964). The differences between these branches are more or less comparable to those existing between the two languages that make up contemporary Aymaran. However, not all the Quechuan varieties can be easily accommodated within either of the two branches, and some authors prefer to speak of a dialect continuum that covers all the varieties of central and southern Peru (e.g. Heggarty 2005). The two branches of Quechuan are known as *Quechua A* and *Quechua B* (Parker 1963), or as *Quechua II* and *Quechua I* (Torero 1964), respectively. Torero further divided Quechua II into three subgroups: *Quechua IIA*, *Quechua IIB* and *Quechua IIC*.[6] Quechua I (or B) is spoken in the highlands of central and central-northern Peru, in the departments of Ancash, Huánuco, Lima, Junín and Pasco, and in a few localities in the departments of Huancavelica, Ica and La Libertad. In the middle of the 20th century, this Quechua I area was more or less continuous, but it is now seriously affected by language attrition at the local level (Chirinos Rivera 2001). Apart from a divergent lexical basis, the unique character of the Quechua I group rests upon a series of sequenced morphological inno-

vations, some of them initially triggered by phonological change. In a few cases, such innovations have affected the transparent agglutinative structure preserved in most varieties of Quechuan.

The Quechua II (or A) group comprises all the remaining varieties of Quechuan. The Quechua IIB varieties are located mostly to the north and northeast of the Quechua I group. They comprise all the Quechuan varieties of Ecuador (*Highland Ecuadorian Quichua* and *Lowland Ecuadorian Quichua*) and Colombia (*Inga* or *Ingano*) and, in Peru, the variety of Lamas in the department of San Martín (*Lamista*), that of Chachapoyas in the department of Amazonas, several varieties spoken in the Amazonian region and an extinct variety that was used around Lima in the 16th century. Torero (2002: 132–139) reports that Quechua IIB, or a related type of Quechuan, was also widely used along the coast and in the Andes of southern Peru before it was eventually replaced by Quechua IIC. This variety (if not several) is usually associated with the port city of Chincha, but its historical presence is also attested in the southern sections of the Andean departments of Ayacucho and Huancavelica.

The Quechua IIC group comprises some of the most vital varieties spoken today, such as those of Ayacucho (in the departments of Ayacucho, Huancavelica, and parts of Apurimac and Arequipa) and Cuzco (in the departments of Cuzco, Puno and parts of Apurimac, Arequipa and Moquegua), and all the varieties spoken in Bolivia and Argentina, as well as possibly Chile, where the presence of a native Quechua is but weakly attested. The Argentine variety of Santiago del Estero deserves a special mention because it is spoken by a highly mixed population, in a lowland province isolated from the remainder of a Quechuan-speaking continuum covering eastern and southern Bolivia and (until formerly) the Andean sector of northwestern Argentina.

Quechua IIA is a controversial subgroup considering that both its internal coherence and its assignment to Quechua II have been questioned (Taylor 1984; Landerman 1991; Heggarty 2005). Quechua IIA varieties are found in northern Peru, in the province of Ferreñafe (department of Lambayeque) and in the provinces of Cajamarca and Hualgayoc (department of Cajamarca). Other varieties that have been attributed to Quechua IIA are (or were) found on the Pacific slopes of the central Peruvian Andes, in the provinces of Huaral and Yauyos in the department of Lima.

Recent research (Adelaar, forthcoming) suggests that the Quechua IIA variety of Cajamarca and those of Laraos and Lincha in the province of Yauyos may represent separate splits from a putative Proto-Quechua II, which was probably centered around the modern town of Ayacucho. The Quechua of Ferreñafe appears to be a mixed variety in that it combines elements of Cajamarca Quechua and Quechua I. The variety of Pacaraos in the province of Huaral is akin to Quechua I, rather than to Quechua II, and was influenced by an unidentified Aymaran language.

The Quechuan languages with the largest numbers of speakers today are Ayacucho Quechua, Cuzco Quechua (including Puno), Southern and Eastern Bolivian Quechua (all Quechua IIC), Ecuadorian Highland Quichua (Quechua IIB, with several local sub-varieties) and Ancash Quechua (Quechua I). These are the varieties of Quechuan with the best prospects for an eventual survival.

At the northern end of the Quechua I continuum, the area of Quechuan predominance ends abruptly. An unrelated language, known as *Culli* or *Culle*, was spoken in the northern part of the department of Ancash (in the province of Pallasca, possibly also in some parts of the provinces of Corongo and Sihuas), in the department of La Libertad (to the west of the Marañón river except for the coastal region), and in the province of Cajabamba (department of Cajamarca). Speakers of Culli were last reported in the town of Tauca (province of Pallasca) around 1950 (Manuel Flores Reyna, personal communication). Only a few short word-lists were recorded for this language, but its toponymy is abundant and requires further research. In the colonial time, the use of a variety of Quechuan in the Culli area and further north was probably limited to urban centers, such as Cajamarca and Huamachuco, including their immediate environs.

The possibility of a further extension of Culli into the western provinces of the department of Cajamarca is in debate. There is a shared lexical substratum between the Quechuan variety spoken in Chetilla (to the west of Cajamarca in the province of the same name) and the Spanish spoken in the province of Santiago de Chuco (La Libertad), which seems to argue in favor of such an extension (Adelaar with Muysken 2004: 403–404). By contrast, Torero (1989) assigns the area in which Chetilla is situated to a hypothetical language denominated *Den* after its most characteristic toponymical ending. Luis Andrade Ciudad (2009, personal communication) recognizes three consecutive pre-Spanish linguistic layers in western Cajamarca, "Den", Culli and Quechuan. The oldest layer (*Den*) is characterized by the absence of hybrid place names. By contrast, hybrid place names, including those combining lexical material from different indigenous languages and/or Spanish, are abundant in the area of Culli influence, for instance, *Agallpampa* 'child plain' (Culli-Quechuan) and *Cruzmaca* 'hill[7] of the Cross' (Spanish-Culli).

A small language family comprising two languages, *Cholón* and *Hibito*, was located to the east of the Culli area, between the valleys of the Huallaga and the Marañón. The historical Cholón were established in the Huallaga valley north of Tingo María, the Hibito on one of its tributaries, the Huayabamba. The Cholón language survived until late in the 20th century. Although it was recorded in a transitional lowland setting, the missions of the Huallaga valley, its territory may have extended well into the Andes. The toponymy of parts of eastern Cajamarca suggests a connection with Cholón, for instance, in *Salcot* 'black water' (Cholón *tsal* 'black', *kot* 'water') and in *Llacanora*, which seems to contain the Cholón root *lʸaka* ('red'). This area coincides with the domain of another hypothetical language proposed by Torero, the *Cat* language (Torero 1989: 236–237). The high mountain

ranges of eastern La Libertad, beyond the Marañón, may also have been Cholón-speaking areas. Although Cholón only became extinct a few decades ago, its main documentary basis, a missionary grammar, dates from the 18th century (Alexander-Bakkerus 2005, 2007).

In the Andean highlands of the department of Amazonas, near the town of Chachapoyas, a separate language, called *Chacha*, existed. Only names persist of this language with its very characteristic phonology (Taylor 1990; Schjellerup *et al.* 2003: 7–8, 246–247). According to a sixteenth century document included in the *Relaciones Geográficas de Indias* (Jiménez de la Espada 1965, III: 143–146), a group of distinct languages were spoken in an area surrounding the bend of the Marañón. Three of these languages (*Copallén*, *Sacata*, *Tabancale*) were spoken in highland or slightly elevated areas. The *Bagua* language was spoken at the bottom of the valley of the Marañón and its nearby tributaries, as well as *Patagón*, a Cariban language, and several languages of the *Candoshian* language family. All these languages disappeared early in the colonial period and their documentation remains limited to a few words. Only a representative of the Candoshian language family (*Shapra* or *Murato*) survives.

In the coastal region of the Peruvian departments of Ancash, La Libertad and Lambayeque two languages shared the domain of the former kingdoms of Lambayeque and Chimú: *Mochica* and *Quingnam*. A third language mentioned in the sources, *la lengua pescadora* ('language of the fishermen'), may have been a dialect or a social variant of Quingnam (Torero 1986). Its existence may reflect an age-old dichotomy between coastal fishermen and desert valley farmers in northern Peru. Quingnam was spoken near Trujillo and along the coast in southern direction. It disappeared so soon after the conquest that for a long time its sheer existence was held in doubt.[8] The dynastic names of the Chimú rulers, which have been preserved, indicate that Quingnam was neither identical to Culli, nor to Quechuan (Zevallos Quiñones 1992). The denomination Mochica (also called *Muchik* or *Yunga*) has been assigned to a language that was spoken in the neighbourhood of Chiclayo and Lambayeque until the middle of the 20th century. It is relatively well documented thanks to a seventeenth century grammar (Carrera Daza [1644] 1939), augmented with data collected at the end of the 19th century and at the beginning of the 20th century (Middendorf 1890; Salas 2002), shortly before the language became extinct. The boundary between the Mochica and Quingnam languages, with some overlap, must have been situated in the valley of the coastal Jequetepeque or Pacasmayo river.[9] At a certain stage, the Mochica linguistic area extended into the departments of Cajamarca (to the east) and Piura (to the north). Mochica is known for its immunity to Quechuan influence and its extreme typological divergence from other languages spoken in the Andean region, which makes its origin an object of speculation.

At least two languages were spoken in the coastal region of the department of Piura until the nineteenth century. Although a relatively large descendant popu-

lation survives, these languages, sometimes collectively referred to as *Sec*, have become extinct. As in the case of Mochica, a rich array of place names and family names have been preserved and await closer investigation. The *Sechura* language was spoken near the port of Sechura, while the *Tallán* language (its varieties also known as *Colán* and *Catacaos*) was used in the Chira and Piura valleys. The language of the desert oasis of *Olmos* further south may have been a dialect or a manipulated variety of Sechura (Torero 1986). Little is known about the original languages of the (hispanicized) Andean interior of Piura. It may have harbored varieties of Quechuan as well as an unidentified local language.

A series of extinct languages was spoken in the intra-Andean valleys of Ecuador, from south to north: *Palta* and *Malacato* and several other languages (in the province of Loja), *Cañar* (in the provinces of Azuay, Cañar and Chimborazo south of the town of Alausí), *Puruhá* (mainly in the province of Chimborazo with its central town of Riobamba), *Panzaleo* (in the provinces of Pichincha, Cotopaxi and Tungurahua, between Quito and the town of Mocha), *Cara*, *Caranqui* or *Otavalo* (in the province of Imbabura and in that of Pichincha, north of Quito), and *Pasto* (north of the Cara, in the province of Carchi and straddling the border between Ecuador and Colombia). All these languages presumably became extinct in the eighteenth century (Pasto probably later). Cañar, Puruhá, Panzaleo and Cara were replaced by varieties of Quechuan, the others by Spanish with a possible Quechuan interlude. Voluminous toponym data from all these languages were collected by Jijón y Caamaño (1940–1945) and Paz y Miño (1940–1942, 1961).

There are indications that the Palta and Malacato languages may have been related to the *Jivaroan* languages, a thriving group of languages spoken in the Amazonian border region of Ecuador and Peru (Gnerre 1975). If this is true, the possibility that the Jivaroan peoples (*Aguaruna*, *Shuar*, *Achuar* and *Huambisa*) may have had an Andean origin cannot be excluded. As we shall see, this is not unlikely at all from a typological point of view. Although the documentation is scarce, the Cara and Pasto languages seem to have belonged to the Barbacoan language family with three living representatives in the Pacific lowlands and slopes of northern Ecuador (*Cha'palaachi* or *Cayapa*, *Tsafiki* or *Colorado*, *Awa Pit* or *Cuaiquer*). The Barbacoan family extends into Colombia, where the *Guambiano* language is an outlying representative (Curnow and Liddicoat 1998). For Panzaleo, Puruhá and Cañar no connection with any surviving language could be established, although the structure and the shape of toponyms suggest that the latter two languages may have been related to each other.

Coastal Ecuador (except for its northernmost part) became rapidly hispanicized after the Spanish conquest. As a result, almost nothing is known about the languages of that important and long-settled area. The *Huancavilca* people of Guayaquil (province of Guayas) and the area to the west of it must have had their own language, as did the inhabitants of the island of *Puná*, who had hardly been subdued by the Incas. The area of *Manta* and *Portoviejo* (province of Manabí) was re-

ported to be multilingual. In the northern part of the coastal region, the language of *Esmeraldas* and *Atacames* (province of Esmeraldas) continued to be used by an Africanized population until the end of the 19th century. It does not show any affinity with other languages, but it exhibits heavy borrowing from the neighboring Barbacoan languages, Tsafiki in particular. This may be an indication that a large population called the *Chonos*, as well as other ethnic groups that originally inhabited the interior of the Ecuadorian coastal plain, may have been Barbacoan speakers as well, and that the speakers of modern-day Tsafiki are part of their descendants. Furthermore, little is known about the linguistic identity of several groups (*Yumbo*, *Quijo*) that inhabited the Andean high slopes to the west and east of the Imbabura highlands in northern Ecuador.

In southern Peru, in an area now mainly covered by Cuzco and Puno Quechua, the *Puquina* language was spoken until the beginning of the 19th century. Its exact area of dispersal is not known, but many place names in the departments of Arequipa, Moquegua, Puno and Tacna are indicative of Puquina presence. In addition, Puquina was spoken in parts of the Bolivian highlands, in particular, north of Lake Titicaca, and in the proximity of the modern town of Sucre. In the 16th century, it was accorded the status of one of the three "general languages" of Peru (together with Quechua and Aymara) by the Spanish authorities. Puquina combines elements of the Amazonian Arawakan family with typically Andean (Quechuan-like) features. It may have preceded the Aymara language in its present stronghold to the south and east of Lake Titicaca, hence it may have been associated with the civilization of Tiahuanaco, centered in that area during the first millennium of the present era (± 500–1100 AD). Puquina vocabulary survives in the core lexicon of *Callahuaya*, a professional language used by medicinal herb specialists from the area of Charazani, north of Lake Titicaca, in the department of La Paz (Bolivia). Callahuaya is reasonably well documented, but our knowledge of Puquina depends on a limited collection of translated religious texts (Oré 1607). For sketches of Puquina, see Torero (1987, 2002) or Adelaar and van de Kerke (2009).

The languages of the *Uru-Chipayan* family and their speakers have long been associated with aquatic environments, such as the shores and islands of Lake Titicaca and Lake Poopó (Bolivia). According to early colonial chroniclers, their domain extended downward to the Pacific coast, and they may have been associated with the extinct *Chango* population of fishermen on what is now the northern Chilean coast. Practically nothing is known of the language spoken by the Changos, so that their linguistic affiliation cannot be determined.

The lifestyle of part of the Uru-Chipayan peoples was distinctly non-agrarian, which earned them a special social status. Today, the *Chipaya* language is spoken by several thousand people in Santa Ana de Chipaya, an isolated highland village in the province of Carangas (department of La Paz, Bolivia), close to the Chilean border, and by migratory workers. The *Uchumataqu* or *Uru* language of Irohito, in Bolivia, near the southern shore of Lake Titicaca close to the Peruvian border, is

moribund. There are no speakers left of the *Uru* language of *Ch' imu*, which was still used near Chucuito (Peru) in the 1930s. Traces of another possible Uru-Chipayan language have been recorded in Bolivia among the Murato people in the area of Lake Poopó (Schumacher *et al*. 2009). The Murato share the characteristic culture and lifestyle of the Urus of lake Titicaca. For recent overall studies of Chipaya and Uchumataqu see Cerrón-Palomino (2006) and Hannss (2008), respectively.

The *Atacameño* or *Kunza* language (also called *Lican Antai*) was spoken until around 1900 in San Pedro de Atacama and neighbouring desert oases, located east of Calama, in the province of Antofagasta in northern Chile. Toponymy suggests an erstwhile further extension of this language into Argentina and Bolivia, though it apparently did not reach the Chilean coast. Although a vocabulary of the Atacameño language has been preserved (Vaïsse *et al*. 1896), the information on its phonological and grammatical features is only fragmentary. The identity of the *Humahuaca* language, once spoken to the east of Atacameño, in the *Quebrada de Humahuaca*, is still unclear.

Diaguita or *Cacán* was the language of an important indigenous population that was originally divided over northern Chile (provinces of Atacama and Coquimbo) and northwestern Argentina (provinces of Salta, Tucumán, Catamarca and La Rioja). Most of the Argentine Diaguita were deported after a rebellion in the 17th century, which put an end to the survival of their language. *Tonocoté* was spoken in a lowland area near Tucumán and Santiago del Estero. Its relation to the *Lule* language, of which an 18th century grammar (Machoni 1732) exists, is unclear.[10] In the first half of the 18th century, Lule speakers from the Chaco area had been concentrated in a number of townships near Tucumán (Furlong 1941). Lule forms a small family of languages together with the highly moribund *Vilela* language of the Argentinian Gran Chaco (Viegas Barros 2001). Historical documents report that 16th century grammars of Diaguita and Tonocoté once existed, but they appear to be irremediably lost.

Further to the south, at the far reaches of the Inca empire, the *Araucanian* language was spoken in its northern dialect variety (*Mapocho*, *Picunche*) in the region of present-day Santiago de Chile. Speakers of *Huarpean*, a small extinct family of languages (*Allentiac*, *Millcayac*) were found in the present-day Argentine provinces of Mendoza and San Luis. All these languages are fairly well documented thanks to the work of the missionary grammarian Luis de Valdivia (1560–1642). There is, furthermore, an extensive literature on Araucanian and its main modern descendent, called *Mapuche* or *Mapudungun* (Salas 1992; Zúñiga 2000; Smeets 2007). The Araucanian language group has no external genetic relatives as far as is known.

As we have seen, the eastern boundaries of the Middle Andean area are fluid. These eastern slopes harbor an extraordinary variety of often unrelated languages. A full inventory of the languages found in this region falls outside the scope of the present chapter, but one must take into account that some of them have had close

historical connections with the Andean languages. As we noted before, this was the case of the Cholón-Hibitoan, Candoshian and Jivaroan languages. In the northern sector (Colombia and northern Ecuador), the western branch of the *Tucanoan* languages has been in intermittent contact with Andean languages, and so has *Zaparoan* further south. The isolate *Cofán* in the Colombian-Ecuadorian border area may also have had Andean connections. Among the more isolated groups of eastern Ecuador we may mention the *Huaurani* and their language.

Among the pre-Andine groups of northern Peru, we may furthermore mention the *Cahuapanan* family (comprised of the *Jebero* and *Chayahuita* languages), which is structurally not unlike the major Andean languages, and (nearly extinct) *Muniche*. *Urarina*, *Omurano* (extinct), *Peba-Yaguan*, *Taushiro, Ticuna*, *Vacacocha* (*Tequiraca*), *Boran* and *Huitotoan* (the latter two probably related) occupy areas further away from the Andes. The *Cocama* language with a strong basis of Tupí-Guaranían is spoken by descendents of a nation that used to hold a commercial key position along the Amazon River and its tributaries. This language contains components from different origins (Cabral 1995, 2007).

The *Arawakan* language family is widely dispersed over South America and the Caribbean islands, and it can therefore not be qualified as a typically Andean group. However, the Arawakan languages spoken in central Peru on the eastern slopes of the Andes exhibit many signs of interaction with Andean languages, the *Amuesha* or *Yanesha'* language being the most extreme example of such contacts (Wise 1976; Adelaar 2006). Originally established in the Oxapampa valley (department of Pasco, Peru) at an average altitude of 1800 meters, the Amuesha underwent such a profound transformation of their culture and language under the influence of speakers of neighboring Quechua I that it would only be fair to treat their language as a Middle Andean language. The borrowed lexicon in Amuesha includes more than 60 Quechuan verb roots, among other items. The neighboring *Campan* languages (*Ashéninka*, *Asháninka, Caquinte, Nomatsiguenga*, *Matsiguenga*, *Nanti*), a subgroup of Arawakan, are not free of Andean influence either. The existence of an inclusive-exclusive first person plural pronominal distinction may be attributed to it (Danielsen, forthcoming). Other Arawakan languages in southern Peru, further away from the Andean foothills, are *Yine* or *Piro*, and *Iñapari*. Another important cluster of Arawakan languages (*Baure*, *Moxo*, *Paunaca*, etc.) is located in the Bolivian lowlands.

The *Pano-Tacanan* languages, composed of two major branches, *Panoan* and *Tacanan*, are widely spread over the eastern lowlands of Peru, Brazil and Bolivia (the Tacanan mainly in Bolivia). They also exhibit old Andean contact relations, although less clearly so than the Arawakan languages do. Some Panoan groups, such as the *Cashibo-Cacataibo*, are almost Andean by their location. By contrast, the independent *Harakmbut* group, located in the Andean foothills of Madre de Dios, appears to be a relatively recent arrival from the Brazilian Amazon, where the Katukina or Kanamarí speak a related language (Adelaar 2000).

The eastern slopes and pre-Andine lowlands of the Bolivian Andes are home to a large number of linguistic isolates, some of which are located so close to the Andes that they must at least be mentioned. This is notably the case of the *Leco* and *Yuracaré* languages, and the small *Mosetenan* family. Four other isolates, *Canichana*, *Cayuvava*, *Itonama* and *Movima*, are somewhat more remote geographically, but they should certainly be taken into consideration when studying the areal connections of the Andean languages. *Chiquitano* (probably related to the Brazilian *Jêan* languages and other members of the *Macro-Jêan* stock) and *Zamucoan* may not have had such close contacts with the Andean languages, but *Chiriguano* (also known as *Bolivian Guaraní*), a language of the *Tupí-Guaranían* family and a newcomer to the Andean region, now occupies a part of the eastern slopes. Until around 1800, Chiriguano-speaking tribesmen made several incursions into the Andean highlands, where they are widely remembered and feared. In the area of the Gran Chaco, the *Matacoan* languages, and to a less direct extent, the *Guaicurúan* languages, may also be considered (for Lule and Vilela see above).

3. Historical background

Seen from the surface, and leaving aside the upheaval caused by the European invasion following the conquest in 1532, the Middle Andes manifests itself as a self-contained area that proved resistant to linguistic influences from the outside (a possible exception being the rather vague connection of the Puquina language with the Arawakan family). Genetic links between languages of the Middle Andes and those of other areas are rare or deeply hidden. The linguistic diversity found in the Middle Andes appears to be essentially home-grown and the result of an early process of diversification that preceded the rise of the higher stages of Andean civilization (see above). The two main language groups, Quechuan and Aymaran, are both firmly rooted in the Andean world. There are no clear genetic connections with other language families, nor has the alleged genetic relationship between the two groups ever been established beyond reasonable doubt. If such a relationship should exist at all, the moment of separation must have been located so far back in time that it can no longer be demonstrated by normal comparative procedures. In the present state of our knowledge, there is also no way to establish if the ancestors of the Quechuan and Aymaran lineages reached the Middle Andean area on separate occasions or in a single migration.

The overall picture has not always been one of stability. Speakers of Quechuan and Aymaran acquired their position of dominance over the centuries, struggling with each other for the same geographical space and pushing the speakers of most other languages into the periphery or into oblivion by assimilation. Two developments were of essential importance: the consecutive (or simultaneous) expansions of Aymaran and Quechuan and the mutual interaction of the two language groups,

which led to one of the most remarkable cases of linguistic convergence in the world.

For both the Quechuan and the Aymaran families, internal diversity indicates a long process of diversification in which the modern varieties developed from two postulated proto-languages. The estimated antiquity of these proto-languages oscillates between 1200 and 1800 years, but the latter figure seems to be more realistic than the former considering that the different varieties of each language group must have influenced each other constantly due to geographic proximity and almost uninterrupted contact. Importantly, the dating of the proto-languages is also relevant for the dating of the first Quechuan-Aymaran convergence, because much of the shared structures and elements must have been acquired at the stage of the proto-languages or before that time.

A question that has occupied many researchers over the years is that of the homeland of both Quechuan and Aymaran. According to a widespread tradition, the Quechuan expansion was assigned to the military conquests of the Incas of Cuzco (ca. 1430–1532), building on the presupposition that Quechua had to be a local language indigenous to the Inca capital and its surroundings. At the same time, Aymara was associated with the *altiplano* culture of Tiahuanaco (period of expansion ± AD 600–1000) near the banks of Lake Titicaca. Linguistic maps depicted Central Peru as a blank area filled with unknown or imagined languages (see, for instance, McQuown 1955; Loukotka 1968). Although the idea of a Cuzco-based origin for Quechuan is still widely advocated in traditional circles, it must be abandoned in the light of the study of the Quechuan geographical varieties carried out since the 1960s (see above). The present-day distribution of Quechuan varieties clearly points at Central Peru as the homeland of Proto-Quechuan on the basis of the archaic and highly diverse varieties found in that area. Since Aymaran shows clear evidence of a perennial contact with Quechuan (and vice-versa), the homeland of its proto-language must have been adjacent to or overlapping with that of Proto-Quechuan, a conclusion that is reinforced by the Central Peruvian location of one of the Aymaran languages, viz., Jaqaru.

The homeland of Proto-Quechuan may have been situated on the central coast of Peru, in the high Andes of Central Peru, or in the intermediate valleys oriented towards the Pacific coast (the modern department of Lima and the Andean and coastal provinces surrounding it). Naturally, this Quechuan homeland may have included parts of all three sectors. The original split between Quechua I and Quechua II may have coincided with the division between mountains and coast, the former group staying where it had always been, whereas the second group became the basis of a major expansion into two directions, north and south. Quechua IIB expanded towards Ecuador and northern Peru, from where it occupied the course of several Amazonian tributaries. Its initial expansion is associated with Chincha, the principal seaport on the central Peruvian coast before the arrival of the Spaniards,

and with Pachacamac, a prestigious temple-city located further north near the mouth of the Lurín river.

Torero (2002: 131–135) reports that coastal Quechua IIB also spread towards the southern Peruvian Andes, where it did not survive eventually, as Cuzco Quechua (Quechua IIC) replaced it as the language of prestige. The expansion of the (Quechua IIA) varieties of Cajamarca and Ferreñafe towards northern Peru corresponds to an earlier wave of migration, not necessarily related to trade.

Most recently, a different scenario has emerged as the expansion of Quechuan was attributed to the centralized state of Huari (AD 500–900), with its capital just north of the modern inland town of Ayacucho. Opinions vary as to whether Huari was the homeland of Quechuan as a whole (Beresford Jones and Heggarty, forthcoming; Isbell 2009) or of Quechua II alone (Adelaar, forthcoming) with branches extending towards Cajamarca (Cajamarca Quechua), Yauyos (Laraos and Lincha Quechua), the Central Coast (Quechua IIB) and the Southern Peruvian Andes (Quechua IIC). This scenario puts into debate the antiquity of Quechuan presence on the Peruvian coast.

Considering the (reconstructed) location of the Proto-Quechuan homeland, one may of course ask the question whether a direct ancestor of Quechuan could also have been associated with the earlier cultural developments that took place in the same area. In other words, could a form of pre-Proto-Quechuan have been the language of the Chavín archaeological horizon (± 900 BC – 200 BC)? Indeed, the site of Chavín de Huántar, the center of the Chavín culture, was situated in the middle of the mountainous interior of the Quechuan homeland. Its radiation over large parts of the Peruvian coast and Andes is undisputable, as was the relative stability of Central Peru during the period of Chavín cultural supremacy. Torero (2002: 87) ventures the idea that the highly regular structure of Quechuan morphosyntax might have been related to its use as a language of communication between coast and mountains during the first millennium BC A further step would be to relate the Quechuan linguistic lineage to the much more ancient centers on the Peruvian north central coast (*Norte Chico*) that are in the process of being excavated, such as Caral and Áspero (cf. Mann 2005). Since the beginning of monumental constructions in that area has been dated as early as 5000 BP, there may be such a long period to account for that the question of the relation with Quechuan origins becomes an academic one. Nevertheless, these very ancient centers too were situated in the alleged Quechuan homeland.

As for the Aymaran homeland, it must be located in the neighborhood of that of Quechuan in order to explain the rather impressive contact history of the two groups. Since Aymaran expanded mainly into a southward direction, it makes sense to look for a homeland to the south of the Quechuan homeland. The coastal strip of south-central Peru between Cañete and Acarí, which comprises the archaeological areas of Ica, Paracas and Nazca, has been indicated as a likely location for the Aymaran homeland (Torero 1972; cf. Cerrón-Palomino 2000: 281–283). Sub-

sequently, Aymaran would have penetrated the Andean interior into the present-day region of Ayacucho, where it became the language of the newly formed state of Huari (see above), which during the so-called Middle Horizon competed as a center of power with Tiahuanaco on the Bolivian *altiplano*. As we have seen, Huari has also been associated with the expansion of Quechuan. Even so, both Quechuan and Aymaran were present in the department of Ayacucho, which constituted a mosaic of languages (cf. Mannheim 1991: 43–47).

Sixteenth century sources, in particular the *Relaciones Geográficas de Indias* of 1586 (Jiménez de la Espada 1965), mention a multitude of local languages (the so-called *hahuasimi* of the area of Lucanas, the language of *Chumbivilcas*, the *Cundi* language of highland Arequipa and Cuzco), which are identified by Torero (2002: 128–131) as extinct languages belonging to the Aymaran family. They can all be considered remnants of a gradual process of Aymarization that affected the southern Peruvian highlands during the first millennium AD, although of course the survival into the 16th century of other native language groups (in addition to Puquina) cannot be excluded. Specific Aymaran features to be found in the Quechua I varieties suggest that particular Aymaran groups also moved in a northwestern direction, with the Jaqaru language as its most tangible remainder (Cerrón-Palomino 2000: 289–97).

According to Torero (2002: 127–131), Aymaran-speaking groups who were settled near Vilcashuaman and the valley of the Pampas river, at the border of the departments of Ayacucho and Apurimac, invaded the *altiplano* south of Lake Titicaca and most of the Bolivian highlands. In this final move of expansion they replaced almost all the local populations in that area, except for the Uru-Chipayan lake and river dwellers and a few pockets of Puquina speakers. This expansion must have taken place in the late middle ages, after the collapse of Tiahuanaco (± 1100 AD), but before the rise of the Inca Empire (after 1400 AD). In the mean time, Quechuan speaking groups obtained predominance in the southern highlands, where their language gradually replaced the local Aymaran (and possibly non-Aymaran) languages. This time, however, the variety of Quechuan that emerged as the dominant language was Quechua IIC, a locally developed variety of Quechuan now also known as Southern Peruvian Quechua (including Ayacucho Quechua, Cuzco Quechua, etc.). The process of quechuanization of the southern Peruvian highlands attained its completion between the 17th and the 19th centuries, when all the local languages disappeared, except for Aymara in a confined region to the north and the south of lake Titicaca (in the departments of Puno, Moquegua and Tacna) and Uru-Chipayan. The eastern and southern Bolivian highlands, still predominantly Aymara-speaking around 1600 (Bouysse-Cassagne 1975), also turned to Quechuan, probably as a result of the cosmopolitan attraction of the silver mining center of Potosí, one of the most populated cities of its time.

It can be seen from the above that many of today's Quechuan-speaking areas only adopted varieties of Quechuan during the period of Spanish colonial rule. The

quechuanization of a large part of the Bolivian highlands, the completion of the quechuanization of southern Peru, the consolidation of Ecuadorian Quichua in the Ecuadorian highlands at the expense of the local native languages there, and the introduction of varieties of Quechuan in the Amazonian region of Ecuador and Peru and in the Argentinian northern lowlands (Santiago del Estero, Córdoba) are all largely post-conquest developments. Nevertheless, the exact chronology of these events is still a matter of debate, as in the case of the introduction of Quechuan in Ecuador and in Santiago del Estero (see, for instance, Hartmann 1979; Bravo 1993).

The Spanish administration was in principle favorable to the use of Quechua, which had been the administrative language of the Inca Empire during its final decades and which was considered to be a highly convenient tool for the evangelization of the Indians and the consolidation of Spanish power. During the 16th century, Quechua was mainly referred to as *la lengua general del Ynga* ('The general language of the Inca') or in shorter form *la lengua general*. Aymara, and initially Puquina as well, were also treated as general languages that were worth learning for the purpose of evangelization. Most other Andean languages, however, were neglected and ignored, and it is only thanks to coincidence and the personal motivation of individuals that grammars of Mochica (Carrera Daza [1644] 1939) and Cholón (de la Mata 1748; cf. Alexander-Bakkerus 2005, 2007) have been preserved.

An attempt at standardization of Quechua and Aymara occurred following the Third Council of Lima (*Tercer Concilio Limense*) of 1583. The *Doctrina Christiana* and the Cathecism, written on the initiative of the clerical grammarians who participated in this meeting, contained a new unified version of the general language, intended to become the official standard of Quechua, as the language was henceforth called. This new Quechua standard was not meant to last. The more complicated and flowery Quechuan variety of Cuzco had a stronger basis because it was associated with past glory and the cultural expression of a nostalgic Inca elite. It turned out to be an ideal vehicle for an indigenous counter-culture that produced literary works, theater plays in particular, which were Spanish in form and content but indigenous in expression (cf. Mannheim 1991). From then on, Cuzco Quechua retained its privileged status, strongly defended by the *Academia Mayor de la Lengua Quechua* established in Cuzco (see above).

The demise of the major indigenous languages of the Andes began around 1770, when the reformist rulers of the Bourbon dynasty started to impose a forced hispanicization, prohibiting the use of Quechua and other indigenous languages. This only became worse after the great rebellion of 1781, headed by Tupac Amaru II, an indigenous nobleman from the Cuzco area. As a consequence of this rebellion, Spanish power was seriously threatened, and a harsh suppression of indigenous cultural and linguistic expressions followed. The longing for emancipation among the Indian population was crushed, and when the War of Independence

began, 30 years later, the Quechuan-speaking population and its aspirations hardly played any role in it. The oppression and marginalization of the Indian population of the new Andean nations Ecuador, Peru and Bolivia continued throughout the 19th century, and it was not before the second half of the 20th century that some sort of reappraisal of indigenous culture and languages occurred. In 1975, Quechua obtained the status of an official language in Peru, on a par with Spanish, a measure of which the immediate effect remained limited. Later on, comparable initiatives followed in the other Andean countries. Programs for the development of (intercultural) bilingual education, sponsored by foreign aid, especially in the 1980s and 1990s, contributed to awakening the interest for the indigenous languages in the Andes and to enhancing their prestige, both among the speakers themselves and among outsiders (cf. Howard 2007).

In the mean time, however, a massive process of language shift is underway that cannot easily be arrested. In large parts of the Peruvian countryside, Quechuan has been replaced with Spanish since the middle of the 20th century, a process that has radically reduced the size of the Quechuan-speaking area and has brought many historically interesting dialects and varieties to the verge of extinction (see Chirinos Rivera [2001] for a statistic analysis of the effects of this process). Self-esteem among the speakers of Andean languages is characteristically low, and it takes more than idealism to convince them not to abandon their ancestral languages after centuries of oppression and neglect. The situation in Ecuador and Bolivia, where the political situation favors the social and cultural mobilization of the Highland Indian population, is somewhat less critical.

4. Issues of genetic relationships

The genetic classification of the languages of the Middle Andean region continues to exhibit a general lack of progress, in spite of many past research efforts meant to improve the situation. This is not likely to change soon, due to a number of particular factors that differentiate the Middle Andean region from other linguistic areas. First, there is an unusual density of linguistic isolates and "shallow" families (such as Quechuan and Aymaran); secondly, many languages that may have constituted missing links have become extinct; and, thirdly, the state of documentation of all but two of these extinct languages is insufficient for use in serious comparative work. Linguistic connections of a genetic nature with areas outside the Middle Andean region are mainly limited to languages found in its periphery (Barbacoan, Jivaroan, Arawakan, Tupí-Guaranían, etc.).

A case of a possible external connection that does affect the heartland of the Middle Andes is the putative genetic link between Puquina and the Arawakan (Maipuran) family of the South American lowlands. It is based on noticeable similarities in the shape and use of personal pronominal markers, the shape of a nomi-

nalizer, and the structure of nominal predicate constructions. Attested lexical similarities are too few to play a decisive role, but a systematic comparison of Puquina and Callahuaya lexicon with that of the different Arawakan languages remains a task for the future. As a matter of fact, all the other Middle Andean isolates and endemic families need to be compared with linguistic groupings external to the area, but so far the results have not been promising.[11]

A major genetic issue that continues to bother Andeanists of all creeds is that of the alleged common origin of Quechuan and Aymaran. The issue harks back to the 17th century when a Jesuit scholar observed that the Quechua and Aymara languages shared so many elements and features that they must have sprung from some common origin "in the same way as Spanish and Italian both descended from Latin" (Cobo [1653], cited in Cerrón-Palomino [2000: 298]). Truly, Quechuan and Aymaran show profound similarities on all linguistic levels (lexicon, phonology, morphosyntax and pragmatics), which can be highly specific and are not shared with other languages in the region. It is widely believed that specialists in Andean languages are split into two camps: those who favor a common origin for the two language groups and those who reject such a possibility but attribute the similarities to intensive borrowing and contact-induced structural remodelling. In reality, the positions have rarely been so outspoken.[12] Few linguists reject the reality of borrowing and contact-induced structural parallelism, and when all the obvious loans are put aside, there is very little left that could be attributed to a remote common origin for Quechuan and Aymaran. Any formal similarities that cannot be easily attributed to borrowing generally fail to meet the requirement of regular sound correspondence needed for the establishment of convincing genetic links. If Quechuan and Aymaran should be genetically related at all, they would certainly not be closely related, and the moment of separation would probably be too early for such a relationship to be recovered with certainty (cf. above). Furthermore, it would be methodologically unsound not to involve other languages in the comparison when such early separation dates are at stake (even though in this case it is likely that possible related languages may have become extinct before they could be recorded).

In what follows we shall first address the principal features that Quechuan and Aymaran have in common, as well as those in which they differ. Subsequently, we will look at external typological links that Quechuan and Aymaran have in common, as well as to possible typological features that involve only one of the two families. It should be remembered that both Quechuan and Aymaran are internally diversified families, and that few statements hold for all the modern varieties, particularly in the case of Quechuan. Many structural, phonological and lexical coincidences are in fact the result of secondary contact between geographically contiguous varieties, which may continue an age-old tradition of linguistic interaction. For instance, Cuzco Quechua and Aymara (in all its varieties) both have series of glottalized (ejective) and aspirated stops and affricates. This coincidence is not an

indication that each of the hypothetical proto-languages of the two families had such series, which may have been limited to Aymaran.

As an example of secondary lexical borrowing, we may mention the case of the verb root *hala-* 'to run', 'to fly', which is used in the Quechua of Puno. This item is not attested in Quechuan varieties further to the north. It contains an intervocalic *l*, which is exceptional in southern Peruvian Quechua and which cannot be reconstructed for Quechuan as a whole. The root *hala-* is obviously a loan from Aymara.[13] It cannot be assigned to the proto-lexicon of both language groups, even though it occurs in both.

Furthermore, some Quechuan varieties, viz. the Ecuadorian-Colombian branch and the Peruvian Amazonian varieties that were derived from it, have lost part of their complex morphology, which makes them look significantly different from both Aymaran and the Quechuan varieties of Peru and Bolivia, which are more conservative in this respect.

5. The Quechuan-Aymaran contact model: An interpretation

For all practical purposes, Proto-Quechuan and Proto-Aymaran are best treated as genetically unrelated languages. Even if they should share a common origin, which is not demonstrated, the issues of language contact and convergence are essential for the characterization and the understanding of the historical relationship between the two language groups. The absence of a demonstrable genetic relationship makes it uncertain if the predecessors of the two proto-languages were structurally as similar as the proto-languages themselves were. This state of affairs leaves room for a process of change and remodelling that could have occurred in an earlier stage of development of one of the two proto-languages. Thus, the predecessors of the proto-languages – or 'pre-proto-languages', as one may call them – would have co-existed in a situation of close contact during a considerable period of time. The archaic and more synthetic character of the Aymaran languages suggests that Pre-Proto-Aymaran may have provided the model, whereas Pre-Proto-Quechuan went through a process of restructuring that eventually resulted in Proto-Quechuan.[14] Although the direction of the lexical borrowing is not always recoverable, there seems to have been a substantial amount of borrowing from Pre-Proto-Quechuan into Pre-Proto-Aymaran. One may speculate about a Pre-Proto-Aymaran-speaking population which became Pre-Proto-Quechuanized through conquest. Subsequently, the language of the conquerors may have been remodelled according to the language habits of the conquered population. Such an event could have occurred between 200 BC and 200 AD, during the period of chaos and turmoil that followed the demise of the Chavín horizon and preceded the rise of the regional cultures of the Early Intermediate Period, such as Mochica in the north, Nazca in the south, and the Niev-

ería and Cajamarquilla cultures in the valley of Lima on the central Peruvian coast (Torero 2002: 125).

6. Quechuan and Aymaran: Structural similarities

In the following enumeration of features common to both Quechuan and Aymaran we shall focus on features that can be reconstructed for both proto-languages. Particularities of varieties that are likely to be the result of ulterior innovations will not be discussed systematically. As we have noted before, the structural parallelism between Quechuan and Aymaran is striking. Insofar as the more conservative varieties of both families are concerned, it is often possible to find almost perfect matches between the meaningful elements that make up a phonological word or a sentence, including the way they are ordered and organized and a substantial amount of idiosyncratic detail. For a long time, both languages were considered prototypical for an agglutinative and suffixing "Andean" language type. Recent research, however, suggests that there are no other languages in the area that can be attributed to such an areal type in a straightforward way. The structural similarities between the two language families have been inventoried with much detail in Cerrón-Palomino (1994) and, in a more definitive way, in its revised edition (Cerrón-Palomino 2008).

As a matter of fact, both Quechuan and Aymaran exhibit an agglutinative morphological structure, almost exclusively based on suffixation. Prefixes do not occur.[15] Sequences of as many as eight suffixes are perfectly normal, and longer sequences may occur occasionally. Other strategies, such as reduplication, vowel modification, vowel suppression and distinctive stress assignment occur in both families but they may not be re-constructible for each of the proto-languages. Normally, there is a one-to-one relationship between meaning and form for each suffix. However, portmanteau suffixes, with distinct meaning components encoded within a single element or combination of elements, are not uncommon, particularly in the domain of personal reference, tense and mood.[16]

The order of the constituents in both Quechuan and Aymaran is predominantly SOV with a considerable tolerance for divergent constituent order in main sentences. In dependent clauses the order of the main constituents is strictly SOV, exceptions being highly infrequent.

Verbs and nouns are distinct classes each with its own morphology and its own set of affixes, although some affixes are formally similar and semantically related in both classes. Minor classes usually align with the nouns, so a division into verbs and non-verbs may be more appropriate than a division into verbs and nouns. Verbal roots and bases end in a vowel in both language groups and cannot occur by themselves without losing their verbal interpretation.[17] They have to be followed by an inflectional affix that closes the verb form. (However, some of these affixes may take a zero form when closing a verbal base.)

The verbal and nominal classes are interrelated by explicit strategies of verbalization and nominalization. Nominalization plays an important role in Quechuan and Aymaran morphosyntax. Relative clauses and several types of adverbial clauses are based on nominalization.

Apart from natural semantic limitations, verbs are not specified for the transitive / intransitive distinction. Semantics permitting, verb roots can be interpreted both transitively and intransitively (compare English 'to turn', 'to break'). Valency-expanding derivations, such as causative and applicative, apply to all verb roots without significant exceptions. In contrast to many other American Indian languages, Quechuan and Aymaran appear to be "indifferent" to the notion of transitivity.

The syntactic alignment of Quechuan and Aymaran is strictly nominative-accusative. Subjects and nominal predicates are unmarked for case, but accusative case-marking is generally required on all lexically expressed objects (nouns, pronouns, nominalized verbs).[18] There is one exception: In Quechuan, the lexically expressed object of a nominalized verb is not marked for accusative case when occurring before its head. A possible explanation is that originally a sequence of a nominalized verb preceded by its object may have been interpreted as a genitive construction.

In noun phrases, lexically expressed modifiers generally precede their heads. In noun phrases containing several modifiers the latter are strictly ordered according to the minor class to which they belong. As an exception to this rule, relative clauses headed by a nominalized verb may follow their antecedent in Central Peruvian Quechuan varieties. The alternative order, in which a clause headed by a nominalized verb precedes the noun to which it is linked, is also permitted, but in that case the relative clause character is less pronounced. In at least one Quechuan variety (that of Santiago del Estero in Argentina), an adjective follows the noun it modifies, possibly an areal feature.

When both the head and the modifier in a genitive construction are lexically expressed in Quechuan or Aymaran, they are both marked for possession. The modifier receives a genitive case marker, while the head noun is marked for the grammatical person of the possessor (triggering agreement when necessary). In some Quechuan varieties, there are genitive expressions in which only the head noun is marked. The opposite situation, a marked modifier followed by an unmarked head noun, is the normal practice in Ecuadorian Quechua, where the possession markers were lost.

The personal pronominal system of Quechuan and Aymaran distinguishes four basic categories identifying the grammatical person of a subject/actor and a direct or indirect object (with verbs), and a possessor (with nouns). These categories are: 1st person (speaker), 2nd (addressee), 3rd (none of either), and 4th (both speaker and addressee).[19] Third person object is not overtly encoded. The 4th person category is generally interpreted as a first person plural inclusive (as opposed to the

plural form of 1st person, which functions as a 1st person plural exclusive). However, it can also be used as a group identifier or a collective person marker (comparable to French *on* or Portuguese *a gente*), in which case the addressee need not always be included. In some Quechuan varieties (mainly those of Ecuador and Colombia), the system of personal pronominal marking has become eroded, and the grammatical person of an object and/or a possessor are no longer marked morphologically.

Apart from possession, nouns can also be marked for number (plural) and for case. The case inventories of Quechuan and Aymaran are similar, although there is not full coincidence. Both language groups have an attributive affix that can be translated as 'having', 'provided with' (Quechua *-yuq*, Aymara *-ni*).

The existence of an elaborate system of verbal derivation or post-base morphology (Payne 1990) is one of the principal characteristics of both Quechuan and Aymaran. The meaning and use of these derivational affixes often coincide in detail, whereas formal coincidences are rare between the two language groups.[20] The inventories of derivational affixes may differ considerably among the different varieties of Quechuan and Aymaran, although the Aymaran inventories tend to be richer. Due to the internal variation within each group, a reliable reconstruction of the derivational systems is difficult. Therefore, we cannot establish how much similarity there really was between the derivational systems of the proto-languages.

Dependent clauses in Quechuan and Aymaran are headed by special adverbial verb forms (converbs) or by combinations of a nominalized verb with a particular case marker. Converbs in Quechuan are characterized by an elaborate system of switch-reference coding, whereas switch-reference in Aymaran is only moderately developed.

Both Quechuan and Aymaran have a set of affixes that can be attached to any constituent, regardless if it is nominal, verbal or adverbial. These elements may indicate such categories as topic, question, evidentiality, attitude, completion, inclusion, etc. They play an important role in the pragmatic organization of a discourse.

Both Quechuan and Aymaran use evidential markers to indicate data source and attitude towards the veracity of a statement. Much societal importance is attached to a correct use of these evidentials.

As indicated above, relative clauses in Quechuan and Aymaran are normally constructed on the basis of nominalized verbs. More complex analytic constructions combining main verbs with interrogative and demonstrative pronouns are also available, but are not frequently used.

From a pragmatic point view, there is often an exact coincidence between specific constructions occurring in both language groups. For instance, an agentive nominalizer accompanying a verb of motion indicates the immediate purpose of that motion (Quechuan *-q* + VERB; Aymaran *-iri* + VERB). A more remote purpose of any event is indicated by combining a nominalized verb indicating future action

(with suffix *-na* in most varieties of Quechuan, *-nʸa* in Aymara, *-nušu* in Jaqaru) with a (nominal) marker of benefactive case (Quechuan *-paq*, Aymara *-taki*). Considering the high degree of structural interference between Quechuan and Aymaran, it may be risky to reconstruct these practices as features of the proto-languages.

7. Quechuan and Aymaran: Structural differences

The structural differences that have survived the extensive periods of intense contact between the Quechuan and Aymaran language communities have received less attention so far than the coincidences and tend to be overlooked. They may be significant because they can provide an insight into the distinctive properties that may have separated the two language groups originally. As an alternative possibility, these properties may also be the result of independent secondary developments.

In Aymaran, the pronominal endings of finite verbs, which encode the grammatical person of a subject and an object, as well as some distinctions of tense and mood, are thoroughly merged and cannot easily be split into meaningful parts. By contrast, in Quechuan a division into meaningful elements is possible in most cases. The Quechuan subject-object combinations are transparent to a certain extent and seem to be of a relatively recent coinage (cf. Adelaar 2009). It suggests that Quechuan originally had a relatively simple system of verbal personal reference marking, in which only a subject or agent could be specified, not an object (with the possible exception of the combination of a 1st person subject acting upon a 2nd person object).

In Aymaran, nominalized verbs can take the personal pronominal markers proper to the nominal class, which are normally used to indicate the identity of a possessor. These markers then refer to the subject/agent of the nominalized verb in question. The object of a nominalized verb cannot be encoded morphologically. By contrast, in Quechuan both a subject/agent and an object can be encoded in nominalized verbs. These so-called "transitions"[21] or complex pronominal markers are inherited, as it were, from finite verbs and retain most of their verbal characteristics. In other cases, however, a personal pronominal marker on a nominalized verb can refer to a possessor. Since the possessive markers and the subject/agent markers are formally the same, the criteria necessary to distinguish them are not clear-cut.

Quechuan converbs feature an elaborate system of switch-reference marking, based on the distinction whether the subject of the converb is identical to or different from the subject of the main verb. When the subjects are not identical, both verbs have to be marked for grammatical person (subject and object when relevant). Quechuan varieties of the Ecuadorian branch have lost morphological person marking on converbs, but maintain a robust distinction of the two switch-ref-

erence options ('same subject' and 'different subjects'). In the Aymaran languages, switch-reference is either rudimentary or limited in its possibilities. Switch-reference is most clearly present in Jaqaru, where converb forms encoding a subject different from that of the main verb seem to reflect a sort of nominalization. As in the case of nominalized verbs, object encoding is impossible. It is not clear whether Aymaran switch-reference developed as a result of contact with varieties of Quechuan, or whether it constitutes an element inherited from Proto-Aymaran which is now in decline.

Quechuan has a copula verb *ka-* 'to be' and an existential verb *ka-* 'to be present', 'to exist'. These verbs differ in their syntactic and pragmatic behavior but are otherwise formally identical. They are often treated as forms of a single verb with different pragmatic options. In the Aymaran languages, a morphological element *-ka-* occurs as an affix attached to the locative case marker *-n(a)* with the meaning 'to be (at)'. There can be little doubt that the occurrence of a root or morpheme *ka-* in both language groups is a result of age-old contact. For the copular function, the Aymaran languages use a different morphological device. In Aymara, the final vowel of a nominal base ('X') is lengthened to produce a verb base ('to be X');[22] in Jaqaru, a segmental element *-w-* is used for this purpose.

According to Cerrón-Palomino (2000: 262–263, 2008: 160–161), both *-ka-* and vowel length are reflexes of a root *ka-* that was identical in both Quechuan and Aymaran. Of course, the assumed development of **ka-* to vowel length or *-w-* is not entirely unproblematic. Nevertheless, the morphosyntactic parallelism between the morphological derivation in Aymaran and the syntactic construction in Quechuan is striking. In copular constructions the third person present form of the Quechua verb 'to be' is omitted whenever it is not marked for any other distinctions (tense, aspect, number, etc.). In Aymara, copular verbalization is omitted under exactly the same circumstances as the copula in Quechuan, and a non-verbalized noun is used instead. It suggests that Aymaran, like Quechuan, once also had a lexically independent copular verb, which became reduced to vowel lengthening or *-w-*.

Quechuan and Aymaran have sets of nominalizers that do not coincide entirely. Quechuan distinguishes an infinitive *-y-* and a future-oriented nominalization *-n(q)a*, which can also refer to the place of an event or an instrument. Aymaran languages have a special nominalizing affix referring to a place of event or an instrument (*-:wi*), but Aymara merges the infinitive and future-oriented functions into a single affix *-n^{y}a*. Jaqaru nominalization differs from Aymara nominalization in several ways and is more like that of Quechuan, although not formally. A reconstruction of the nominalizers is problematic due to these different inventories.

Both Quechuan and Aymaran indicate case by means of affixes which are attached at the end of a noun phrase. The inventories do not coincide entirely. The Quechuan inventory includes case markers for, *inter alia*, genitive *-p(a)*, locative (Quechua II *-pi*, Quechua I *-ĉaw* or *-ĉu:*) and instrumental-comitative *-wan*. Ayma-

ran has a single case marker *-n(a)* for all these functions, except for a separate marker for the comitative function, which is *-wšqa* in Jaqaru and *-mpi* (or *-nti*) in Aymara (Cerrón-Palomino 2000: 209–211).[23] The accusative case is marked in Quechuan with a suffix *-(k)ta*. Aymaran languages eliminate the final vowel of a nominal base for this purpose (in Aymara), or leave it mostly unchanged (in Jaqaru). An accusative case marker **-ha*, still occasionally used in Jaqaru, may be tentatively reconstructed for Proto-Aymaran (Cerrón-Palomino 2000: 206–208). The reconstruction of case affix inventories is problematic for both language groups.

Evidentials, also known as *validators* or *data source markers* in the literature on Andean languages, play an important role in Quechuan (cf. Floyd 1999; Faller 2002), where they take the form of affixes that operate at the sentence level (see above). Aymara has incorporated most of its evidentiality markers in its verbal system, thus increasing the number of verbal paradigms. Jaqaru seems to align more closely with Quechuan in this respect, suggesting that the Aymara developments may have been the result of innovation. The notion of *mirativity* (DeLancey 1997) plays an important role in the Quechuan verbal tense system and has even been copied into Andean Spanish.[24] Its exact status in the Aymaran languages remains to be established.

The verbal derivational system or post-base morphology of Aymaran is more elaborate than that of Quechuan, in particular, in the domain of spatial affixes. Quechuan derivational affixes tend to be more multifunctional in comparison to Aymaran. On the other hand, verbal derivation in both language groups also shows a great amount of functional coincidence, which may be due to the historical contact situation.

8. Quechuan and Aymaran: Phonological coincidence

Both the Quechuan and the Aymaran language families exhibit a relatively high degree of internal diversity in the domain of their sound inventories. By contrast, the phoneme systems that can be reconstructed for Proto-Quechuan and Proto-Aymaran are nearly identical with one notable exception: Proto-Aymaran made a distinction between glottalized (ejective), aspirated and plain stops and affricates, which is reflected in both its descendants.

In the Quechuan family, only a few varieties (though important in terms of numbers of speakers) that are likely to have an Aymaran substratum, maintain the distinction between glottalized, aspirated and plain consonants. For this sole reason the varieties in question, Cuzco and Puno Quechua, as well as Bolivian Quechua, are often incorrectly treated as a single homogeneous dialect. Aspirated stops or reflexes of aspirated stops are also found in the varieties of Quechuan of the Ecuadorian highlands. Their occurrence is generally attributed to a Cuzco Quechua adstratum, possibly favored by the phonological nature of the non-Quechuan

Table 1. Proto-Quechuan consonants, based on Adelaar with Muysken (2004: 196)

		Labial	Alveolar	Palatal	Retroflex	Velar Glottal	Uvular
Voiceless	Obstruents	p	t	č	ĉ	k	q
	Fricatives		s	š		h	
Voiced	Nasals	m	n	n^y			
	Laterals		(l)	l^y			
	Rhotics		r		(ř)		
	Glides	w		y			

Table 2. Proto-Aymaran consonants, based on Cerrón-Palomino (2000: 118)[25]

		Labial	Alveolar	Palatal	Retroflex	Velar Glottal	Uvular
Voiceless obstruents	Plain	p	t	č	ĉ	k	q
	Aspirated	p^h	t^h	$č^h$	$ĉ^h$	k^h	q^h
	Glottalized	p’	t’	č’	ĉ’	k’	q’
Voiceless fricatives			s	š		h	
Voiced	Nasals	m	n	n^y		(ŋ)	
	Laterals		l	l^y			
	Rhotics		r				
	Glides	w		y			

substratum languages originally spoken there. Although certainly not all the problems surrounding the use of the glottalized and aspirated series in Quechuan have been satisfactorily solved, there seem to be insufficient reasons for reconstructing them in the proto-language. In varieties of Quechuan that have glottalized and aspirated consonants, these consonants are not normally used in affixes (only exceptionally), whereas this frequently occurs in Aymaran.[26] Furthermore, in Quechuan the presence of glottalization and aspiration is limited to one instance per root, namely, on the first prevocalic stop or affricate, the two categories of consonants that can be subject to laryngeal modification. Nevertheless, in Aymara their use is not entirely free of restrictions either (Cerrón-Palomino 2000: 173–175). It should be emphasized that the use of glottalization and aspiration in Quechuan varieties cannot be derived from an Aymaran model in a straightforward way. These phenomena acquired their own dynamism in Quechuan and spread through the lexicon in often unpredictable ways. Explanations that were brought forward, such as compensation for the loss of a phonological contrast, as in Quechuan roots originally

containing the retroflex affricate *ĉ* (cf. Torero 1964: 464), and iconicity (Mannheim 1991: 177–207) can account for some of the cases, but probably not for all.

Apart from the issue of glottalized and aspirated stops and affricates, the reconstructed phoneme systems of Quechuan and Aymaran are remarkably the same. Both proto-languages made a distinction between velar and uvular stops (*k*, *q*), and between alveopalatal and retroflex affricates (*č*, *ĉ*). Both proto-languages had the palatal resonants l^y and n^y, as well as the alveolar and alveopalatal sibilants *s* and *š*.

Some differences in the phoneme inventories of the two proto-languages are worth noting: the near absence of a plain, non-palatal lateral *l* in Quechuan and the absence of word-initial *r* in Aymaran. In loan words, Quechuan word-initial *r* corresponds to *l* in Aymara and to *n* in Jaqaru, apart from recent loans that no longer reflect this correspondence. Furthermore, Proto-Aymaran had an intervocalic velar nasal *ŋ* with a limited contrastive function, which did not occur in Proto-Quechuan (cf. Adelaar 1996).[27]

Most important of all, the vowel system of the two proto-languages was trivocalic, consisting of two high vowels *i* and *u*, and one low vowel *a*. In most modern descendant varieties, both high vowels are automatically lowered to a mid position ([e], [o]) when adjacent to a uvular consonant, and this was probably also the case in the proto-languages. Since the European invasion, the position of the mid vowels has been reinforced by borrowings from Spanish, a few neologisms and an occasional spread of the lowering effect to other environments, hence modern Quechuan varieties are frequently analyzed as having a five-vowel inventory. However, the tri-vocalic character of the original Quechuan and Aymaran vowel systems is not open to doubt.

The main difference between the Quechuan and Aymaran proto-languages did not lie in the composition of their phoneme inventories, but in their highly distinctive phonotactics and morphophonology. Whereas neither of the two proto-languages allowed tautosyllabic consonant clusters in the underlying form of morphemes (roots and affixes), the Aymaran languages have inherited from their common ancestor a set of suppression rules that apply to vowels preceding specific suffixes. These suppression rules are, so to say, part of the formal description of the suffixes that trigger them, and they appear to be phonologically unmotivated. They are responsible for the impressive clusters of up to six consonants that occur at morpheme boundaries in the Aymaran languages but are unknown in Quechuan.

In both Quechuan and Aymaran, verb roots have to end in a vowel and are obligatorily followed by suffixes. In the Aymaran languages, nouns and affixes liable to appear in word-final position have to end in a vowel as well (at least underlyingly). By contrast, Quechuan does allow nouns, particles and affixes with a final consonant. Affixes can also consist in a single, potentially word-final consonant. Understandably, this state of affairs, which may hark back to the proto-languages, is especially helpful for the identification of loan words from Quechuan and other languages into Aymaran, because they take an added vowel when consonant-final

forms in the donor language are involved. Finally, Proto-Aymaran seems to have had a preference for morphemes consisting of open syllables and a more restricted inventory of morpheme-internal consonant clusters than Proto-Quechuan had.

9. Lexical overlapping between Quechuan and Aymaran

The circumstance that has probably contributed most to the idea that Quechuan and Aymaran are genetically related is the amount of lexicon they share. In addition to the occasional borrowings that occurred between the different branches of the two language groups, Quechuan and Aymaran exhibit an overlap of about 20 percent in the reconstructed lexicon of each family. The shared items include words that can be considered to belong to the basic vocabulary, such as *nina* 'fire' and *warmi* 'woman', and a substantial number of very elementary verbs such as *apa-* 'to carry' and *muna-* 'to want'. Furthermore, the reconstructed shared items are not only similar in form across the two language groups, they are identical in most cases; e.g., Quechuan *quĉa*, *quča* < Proto-Quechuan **quĉa*; Aymara *quta*, Jaqaru *quĉa* < Proto-Aymaran **quĉa* 'lake'. By contrast, the remainder of the reconstructed lexicon does not show systematic correspondences across the two proto-languages, if there are similarities at all.[28] This state of affairs leaves practically no room for any other conclusion than that of intensive borrowing at the level of the proto-languages. A genetic relationship reflecting a still older common proto-language would carry signs of divergence visible through sets of cognates differing in a systematic and predictable way. Yet, such cognate sets have not been found.

For some cognate pairs the source language of the borrowing can easily be identified, for instance, when the Aymaran item contains an added root vowel. In Quechuan *paĉak*, *pačak* (from Proto-Quechuan **paĉak*), and Aymara *pataka*, Jaqaru *paĉaka* (from Proto-Aymaran **paĉaka*) 'hundred',[29] the Quechuan source can be determined from the presence of an added vowel in the Aymaran form. In many other cases, however, it is no longer possible to establish the direction of the borrowing. The answer to the question why so many vocabulary items were borrowed at such an early stage of interaction between the two languages must be sought in an analysis of the social and historical circumstances under which that interaction occurred.

10. External distribution of typological features found in Quechuan and Aymaran: Phonological features

As we have seen, the Quechuan and Aymaran language families are hard to classify, both in relation to each other and as far as external connections are concerned. In what follows, we will explore languages of neighboring areas for similarities to

the main typological features found in these two language groups, and we will try and see if meaningful areal distribution patterns emerge.[30] Where necessary, a broader New World picture will be provided. Because of their straightforwardness, phonological features will be examined first.

Vowel *systems with only three basic vowels* (*a*, *i*, *u*) – disregarding length, nasality, and other secondary modifications of these basic vowels – are not common in South America. In the Andean region, systems of five or six vowels predominate. In the eastern lowlands of South America vowel systems that are even more complex are found. However, tri-vocalic systems occur in a few Arawakan languages spoken in regions that are adjacent to Quechuan-speaking or formerly Quechuan-speaking areas, namely Amuesha (with the vowels *a*, *e*, *o*) and the Upper Perené variety of Ashéninka (Payne 1989). Since most Arawakan languages of lowland Peru tend to have more than three basic vowels, there can hardly be any doubt that we are dealing here with a case of areal diffusion, in which specific Arawakan languages adjusted to the pattern of Quechuan or a typologically similar extinct language. The extinct Culli language of northern Peru is too poorly documented to provide answers to any specific questions about its phoneme inventory, but the distribution of mid vowels *e*, *o* in place names suggests that their occurrence was conditioned by the adjacency of what may have been a uvular stop (*q*, see below) or a rhotic (*r*).[31] This conditioning may be tentatively ascribed to the sort of vowel variation characteristic of three-vowel systems. The Jivaroan, Zaparoan and Cahuapanan languages, adjacent to the northern part of the Middle Andes also have relatively limited vowel systems, consisting of the vowels *a*, *e/i*, *o/u* accompanied by a central vowel. The nearest incontestable examples of three-vowel systems in the Americas are found in Nicaragua (Miskito, Rama) and in the southern tip of South America (Tehuelche, Teushen; possibly Kawesqar).[32]

Contrastive vowel length is not a reconstructible feature of the Quechuan and Aymaran language groups, but it occurs in many of their present-day varieties. Contrastive vowel length is relatively rare in the languages of South America. Apart from Quechuan and Aymaran, it occurs in the Uru-Chipayan languages and in Callahuaya. The data for Puquina are too poor to decide on, but the occasional use of doubled vowels in the orthography of Oré's Puquina texts (Oré 1607) is a possible indication. Vowel length in Middle Andean languages usually has its origin in the loss of an intervocalic consonant (*VCV* > *V:*) or the modification of a coda (*VC* > *V:*). Contrastive vowel length was almost certainly also present in Mochica, and possibly in Atacameño. Among the Arawakan languages adjacent to Quechuan, Amuesha, Ashéninka and Chamicuro have distinctive vowel length (Payne 1991). Other examples of contrastive vowel length are found in Colombia (Chocoan, Chimila, Páez, Guajiro) and in the far south (Tehuelche, Yahgan).[33] Vowel length is also found in languages of the Gran Chaco (e.g. Ayoreo).

The distinction between *velar and uvular* stops is deeply anchored in both the Quechuan and the Aymaran language families. From a South American point of

view, the distribution of uvulars and the velar/uvular contrast are geographically limited. Uvulars are not found in the eastern lowlands of South America, nor in the north of the Andean region. To the immediate north of the Quechuan-speaking region, the extinct Culli language may have had a contrast between uvular and velar stops. This is suggested by a diacritic mark in the Culli version of the comparative wordlists collected by Martínez Compañón ([1782–1790] 1985). It is found on the symbols <c> and <g> or on mid vowels adjacent to these symbols, e.g. <čollapù> 'to die', <ogoll> 'child'. The presence of this diacritic appears to be related to the use of mid vowels, suggesting that the Quechuan and Aymaran rule lowering high vowels to mid position in the vicinity of uvulars applied to Culli as well. The interpretation of <č> as a uvular stop is reinforced by the fact that it also occurs in the neighborhood of a low vowel, where the high-mid distinction does not play a role, e.g. in <čau> 'rain' (also attested in the present-day toponym *Cauday*, presumably translatable as 'mountain of rain').

Family names, such as *Occ*, in the area of Chachapoyas, suggest that the extinct Chacha language may have known uvular consonants, considering that in Andean colonial sources the sequence *cc* was normally used to write uvular stops. Torero (2002: 164–201) posits uvular stops and nasals for the extinct Cholón language on the basis of two verb roots, but we have not been able to find corroborating evidence for such an interpretation of the data in de la Mata's grammar, the principal source for the Cholón language (Alexander-Bakkerus 2005, 2007).[34]

Towards the south, the presence of contrastive uvulars is more general. They are found in the Uru-Chipayan languages and in Callahuaya.[35] The occurrence of uvulars in the extinct Puquina and Atacameño languages is likely. The Puquina vocabulary comprises several words that have cognates with uvular consonants in Callahuaya. The orthography <ck>, which is used for back consonants in the main source for Atacameño (Vaïsse *et al*. 1896), suggests that this language had uvulars but no velars, a typologically unusual situation. The spelling <ck> is frequently used to represent a voiceless uvular stop in Argentinean orthographic practice, and there is no reason to assume that it had a different function in this case. In the Leco language, there is a fricative phoneme that has a non-contrastive uvular pronunciation in some environments (van de Kerke 2009).

The high incidence of uvular consonants (stops and fricatives) in substratum words of the Argentinean Quechuan variety of Santiago del Estero suggests that the underlying Diaguita and Tonocoté languages also had uvulars. In addition, uvulars are found in Vilela (and possibly in the extinct Lule language, to which it is related) and in the Matacoan and Guaicuruan language families of the Gran Chaco region. The evidence for uvulars in the Huarpean languages is thin (cf. Torero 2002: 504–505). Further to the south, the Chon languages of Patagonia (Tehuelche, Ona and Gününa Yajich) had uvulars, as well as Kawesqar in the archipelago of southern Chile. For Kawesqar, the available descriptions (e.g. Aguilera 1978; Clairis 1987) suggest, as for Atacameño, that the uvular stop lacks a velar counterpart.

In most of the Matacoan languages, the difference between velar and uvular consonants is not contrastive either (Campbell, personal communication).

Outside South America, uvular stops are found in the Mayan and Totonacan languages (in Mesoamerica) and in many languages of the North American Pacific coast and its neighboring interior. It is not impossible that this highly characteristic distribution of the velar/uvular contrast in the Americas may turn out to be significant one day. For Quechuan and Aymaran, the immediate conclusion is that of a possible areal link with the languages that are located to the south and southeast of the Middle Andean region.

Interestingly, the distribution of *glottalized obstruents* throughout the Americas is very similar to that of the uvulars. Glottalized stops and affricates are found in a large area to the southeast of the Quechua-Aymaran highland, where this phenomenon also extends to Uru-Chipayan, Callahuaya (possibly to Puquina as well) and to Atacameño. Ronald Olson and Liliane Porterie (cited in Torero 2002: 471–472) suggested that glottalized consonants in Uru-Chipayan may represent a case of diffusion from Aymaran because of their low frequency. Further to the southeast, glottalized consonants are widely found in the Matacoan languages of the Gran Chaco, in the Chonan languages of Patagonia (Tehuelche, Ona and Gününa Yajich) and in Kawesqar. In contrast to the uvulars, glottalized consonants are not entirely absent from the Amazonian region. They are found in the isolates Itonama and Leco (Bolivia), in Jebero (Cahuapanan, Peru),[36] and in Piaroa (Salivan, Venezuela), apparently a set of unrelated cases (for more cases see Campbell typology, this volume).

Looking north, there are no cases of glottalized consonants until one reaches Central America, where they are found in the Mayan languages, in Xinkan (Guatemala), in Lencan (El Salvador and Honduras), in Jicaquean (Honduras), and in Tequistlatecan (also called Chontal of Oaxaca, Mexico). They are also found in Mexican languages further north, such as Tepehua (Totonacan), Mazahua and Pame (Otomanguean).

Glottalization is again frequent along the North American Pacific coast and in its interior. The near coincidence of areas using uvulars and glottalized consonants in the Americas is a significant fact that deserves further investigation.

The distribution of *aspirated obstruents* does not coincide with the use of glottalized consonants anywhere in South America except in the Middle Andes. Apart from Aymaran and a number of varieties of Quechuan, aspirated consonants are found in Callahuaya and in Uru-Chipayan, possibly also in Puquina and in Atacameño. The doubt concerning the aspiration in Atacameño has to do with the question whether it has to be interpreted as a feature of an adjacent consonant or as a feature of a vowel. In the far south of South America, aspirated consonants have been reported for Kawesqar. In addition, aspirated consonants are occasionally found in the Amazonian region, in Arawan languages, Arawakan languages (including Proto-Arawakan [Payne 1991] and some of its descendant languages),

Bora, Leco, Mosetén, Yanomaman and Yaruro, and in the area north of the Middle Andes, in Chocoan, Cofán, Páez, and Tinigua). In Meso-America aspirated consonants appear in Purépecha (Tarascan). Aspirated consonants are also found in a number of North American Indian languages.

In South America, sound systems that combine *a plain, a glottalized and an aspirated obstruent series* for different points of articulation appear to be restricted to the Middle Andes, where, apart from Quechuan and Aymaran, they are found in Uru-Chipayan, in Callahuaya, in Leco, and possibly also in Puquina and Atacameño. In the southern tip of South America, Kawesqar, has such a system (Clairis 1987: 361–378). For the nearest example of such a system outside the Andes one has to travel as far north as California. The Pomoan languages, for instance, have these three series as well as a distinction between velar and uvular consonants.

Retroflex affricates in contrast with alveopalatal affricates can be reconstructed for Proto-Quechuan and for Proto-Aymaran. Although retroflex affricates are only preserved in the Quechuan varieties of Cajamarca, Chachapoyas and Pacaraos, in part of the Quechua I varieties (particularly the southern half), and in Jaqaru (Aymaran), their extension must have been more general in the past. The only other Middle Andean language that has retroflex affricates is Chipaya. Furthermore, Amuesha and Chamicuro, two Arawakan languages that are located not far from Central Peruvian Quechuan, have retroflex affricates as well. It may be a contact-induced phenomenon, but it has to be considered that the retroflex affricate is also found in Amuesha and Chamicuro words that are not of Quechuan origin (e.g. Amuesha *ĉo:p* 'corn').

To the north of the Middle Andean region, the retroflex affricate is found in southern Colombia, in the Kamsá and Guambiano languages, and, south of the Middle Andean region, in Mapuche, Gününa Yajich and, according to Poblete and Salas (1999), also in Yahgan. However, in Mapuche the retroflex affricate varies with a retroflex stop, and the earliest historical source of importance (Valdivia [1606] 1887) suggests that the stop may have been the original form. In a more distant location, retroflex affricates are found in Mesoamerica, in Popolocan (Veerman-Leichsenring 1991) and in several Mayan languages of the Mamean and Q'anjobalan subgroups (see Campbell typology, this volume). The distribution pattern for the retroflex stop is too dispersed to make any strong areal claims, except for the nuclear area of the Middle Andes itself. Note, however, that it is difficult to recognize retroflex consonants in extinct languages that have been recorded in pre-modern orthographies.

Another remarkable speech sound is a *contrastive velar nasal*, which can be reconstructed for Proto-Aymaran. It is found today in Jaqaru and in some Aymara dialects in the border area of Bolivia, Chile and Peru. Its distribution suggests a genesis not much older than the stage of the Aymaran proto-language. Contrastive velar nasals were also found in Cholón and in Mochica, and they still exist in Ma-

puche. The velar nasal is very common in languages of the tropical lowlands of South America (e.g. in Tupían and Jêan languages).

A *non-palatal lateral gap*, that is, the occurrence of a palatal lateral not matched by a non-palatal counterpart is shared by Proto-Quechuan and Amuesha. Like the three-vowel system and the occurrence of a retroflex affricate, this is yet another example of the convergence that links Arawakan and Quechuan in central Peru (cf. Wise 1976; Adelaar 2006). This convergence may not be particularly old, but it is certainly significant from the point of view of a hypothesis of linguistic diffusion.

11. External distribution of typological features found in Quechua and Aymaran: Morphosyntactic features

Probably the most striking common feature of Quechuan and Aymaran morphosyntax is its *strictly suffixing and regular agglutinative structure*. This structure, which combines a well developed nominal morphology with a highly elaborate derivational and inflectional verbal post-base morphology, has often been presented as prototypical for the Andean region (e.g. in Tovar 1961: 194–199). As a matter of fact, few other languages in the Americas share this type of structure. From a typological point of view, Quechuan and Aymaran are quite exceptional, and in this respect they resemble Old World languages such as Turkic, rather than the surrounding languages. One of the few language groups in South America that resemble Quechuan and Aymaran in its morphosyntactic structure is the Jivaroan language family in Ecuador and northern Peru. In Mesoamerica, Purépecha (Tarascan), and possibly Cuitlatec, both linguistic isolates, have a similar structure.

Although the specific language type of Quechuan and Aymaran with its highly complex post-base morphology and well developed nominal morphology is not common in the Americas, there are quite a few other languages in the Andean region and in the adjacent eastern lowlands that rely mainly on suffixation for their flectional and derivational morphology. Apart from Jivaroan, these are, for instance, the Panoan languages, the Barbacoan languages, the Cahuapanan languages, the Chocoan languages, part of the Chibchan languages (Cuna, Chimila, Tunebo), the Tucanoan languages, Páez, Esmeraldeño, Mochica, Puquina, Callahuaya, Uru-Chipayan, Mosetenan, Lule,[37] Huarpean and Mapuche. A predominantly suffixing structure may be seen as an areal trait of the languages of the Andean region. Nevertheless, the widespread American Indian language type characterized by a mix of prefixes and suffixes, in which the former include (part of) the personal pronominal markers, is also represented in the Andes with Atacameño, Cholón and the Chibchan languages Muisca, Ika, Kogi and Damana.

A difficulty with the delimitation of exclusively suffixing languages vis-à-vis languages that present a mixed structure of prefixes and suffixes is the presence in

some of the former of clitic-like possessive modifiers that precede nouns (compare *mi* 'my', *tu* 'your' and *su* 'his/her/their' in Spanish). These possessive modifiers often occupy the place of prefixes in related languages. So it is possible that we have to do with degrammaticalized prefixes.[38] Andean languages exemplifying this type of modifiers are Chimila (Chibchan), Puquina and Mapuche. From a strictly morphological point of view, these languages rely mainly on suffixes, but these are supplemented by the use of pre-clitic possessive modifiers. Because of its elaborate and highly regular post-base morphology, Mapuche has often been treated as yet another example of the Andean language type, comparable to Quechuan and Aymaran, but it differs from them precisely by its use of pre-clitic possessive modifiers and by its rudimentary nominal morphology. The Puquina language exhibits an ambiguous situation in that it sometimes undergoes sandhi when possessive modifiers (and demonstrative modifiers, for that matter) are attached directly to the root, but they behave as separate words when an adjective intervenes (e.g. *pakas* 'world', *po=wakas* 'your world', but *po atot huča* 'your great sin').[39] As we have seen, Puquina may be remotely related to the Arawakan languages, where the status of pre-posed personal pronominal markers can also be ambiguous (see Danielsen [2008] for an interpretation of such markers as pre-clitics in Baure). It may very well be that languages such as Mapuche and Puquina developed towards a 100 % suffixing language type by losing their prefixes under areal pressure or by upgrading them to the level of clitics or free forms.

Personal pronominal markers involving more than one speech act participant are a frequent characteristic of New World languages. Most languages use prefixes or, more often, combinations of prefixes and suffixes for this purpose, so that the roles of actor/subject and (in)direct object can be kept apart formally. An outstanding feature of the suffixing languages Quechuan and Aymaran is that these categories are necessarily expressed in the suffix part of the verb, where they are subject to a great deal of fusion, both with each other and with the surrounding tense and mood markers. Aymaran exhibits the highest degree of fusion (laying a greater burden on a learner's memory) because the endings can no longer be straightforwardly split into recognizable components. Languages that also have a suffixal system of partly fused personal pronominal marking with combined subject/actor and object coding, apart from Quechuan and Aymaran, are: Mapuche, Puquina, Mosetén, Jivaroan, Yaruro (in the state of Apure, Venezuela, cf. Mosonyi [1966]), and the Kwaza language of Rondônia (van der Voort 2004). As a mixed language, Callahuaya behaves like Quechuan.

A characteristic by-product of the above-mentioned complex pronominal endings is the presence of *inverse markers* intended to recycle personal reference endings in different functions. Such a mechanism is found in Quechuan, Puquina and Mapuche. It has the function of assigning an object role to endings that otherwise refer to a subject or actor (cf. Adelaar 2009). Examples are *-šu-* in (Central Peruvian) Quechuan *maqa-šu-nki* 'he/she beats you', compare *maqa-nki* 'you beat

(him/her)'; *-s-* in Puquina *too-s-pi* 'he/she brings you', compare *too-pi* 'you bring (him/her)'; and *-e-* in Mapuche *leli-e-n* 'you looked at me', *leli-e-n-ew* 'he/she looked at me', compare *leli-n* 'I looked (at him/her)', *leli-fi-n* 'I looked at him/her'. Inverse markers have the advantage that the different subject-object combinations can be expressed with a minimal amount of extra affixes. They are often matched by a hierarchy assigned to the grammatical persons, as in Mapuche, where that hierarchy is $1 > 2 > 3_a > 3_b$ ('3_b' referring to a 3rd person external to the speech event). Mochica also has a hierarchy, which dictates the use of a passive whenever a patient or object occupies a higher place in the hierarchy than the actor (Torero 2002: 351–357).[40] An inverse-direct distinction and a hierarchy of grammatical persons are also found in Movima (Haude 2006).

A feature that drew the attention of Wilhelm von Humboldt in the early 19th century is the *relative location of subject and tense coding* in the verb (Ringmacher and Tintemann, forthcoming). Quechuan and Aymaran coincide with Latin and other Indo-European languages by expressing the grammatical person of the subject at the right-side periphery of the verb form. Personal pronominal markers can be separated from a verbal base by tense and mood markers if any are present. Humboldt considered this an indication of the higher degree of development of the major Andean languages as compared to Amazonian languages that integrate personal pronominal marking with the verbal base, leaving the expression of tense to peripheral clitics or adverbs. Such a hierarchical categorization of languages has rightly be abandoned, but it is interesting that many subject-marking suffixing languages adhere to the Quechuan-Aymaran model: Puquina, Mapuche, Jivaroan, Tucanoan and, to a certain extent, also Mochica.[41]

Contrarily to what may be expected, the elaborate *post-base morphology*[42] of Quechuan and Aymaran is not confined to languages representing the agglutinative suffixing type, such as Mapuche and Jebero (Cahuapanan) (Bendor-Samuel 1961).[43] The post-base morphology of Amuesha, Ashéninka and other pre-Andine Arawakan languages is just as elaborate as that of Quechuan and Aymaran, although these languages combine prefixing and suffixing morphology like the majority of the Arawakan languages do. Assuming that an elaborate verbal post-base morphology is not a characteristic of the Arawakan family as a whole, we may be dealing here with a strong case of convergence affecting highland and eastern slopes languages of Central Peru.[44] This is in line with the phonological similarities between Amuesha and Quechuan that we have noted earlier. For many South American languages, it may not be possible yet to establish the full extent of the complexity of their post-base morphology due to incomplete descriptions. For extinct languages it may remain impossible because not all traditional grammarians accorded equal attention to this complex and relatively impenetrable part of the grammar. Another difficulty is how to compare the degree of grammaticalization of the affixes involved in post-base morphology. Languages such as Quechuan, Aymaran, Amuesha and Mapuche have a set of closing affixes that clearly mark the

boundary of a word, locking derivational affixes inside. Internally, the affixes are governed by strict rules of order and co-occurrence restrictions. Other languages with rich suffixation, for instance Tupí-Guaranían, feature a looser structure of post-base morphemes, some of which can be interpreted as clitics.

The marking of *switch-reference* in dependent verbs is a highly characteristic feature of the Quechuan language group. It has a clear function in discourse, where it is used to summarize the information of a previous sentence and to keep track of participants in a speech event, thus avoiding explicit repetitions of the subject. In conservative varieties of Quechuan, switch-reference is marked on dependent verbs (converbs) that refer to events previous or simultaneous to the main verb. When the subjects of the dependent verb and the main verb are different, the full set of subject-object combinations is in use.[45] Ecuadorian Quechuan no longer has personal pronominal marking on the dependent verb, but the distinction between the same-subject and different-subjects categories is maintained. At least one sub-variety of Ecuadorean Quechuan (Imbabura Quechua) has expanded its switch-reference system by adding a distinction that applies to the future and is used in purpose clauses. Switch-reference also occupies an important place in Chipaya, in the Barbacoan languages (Tsafiki, Cha'palaachi), in Jivaroan, in Tucanoan, and in the Panoan languages, where it attains a high degree of complexity due to the ergative structure of these languages. Within the Aymaran language family, Jaqaru has a fairly developed switch-reference system with a different-subjects category that only encodes subjects (not objects). In Aymara, some dialects have a vestigial different-subjects form for the third person. It is not clear if switch-reference categories were lost in Aymara or that they simply failed to develop. Switch-reference is clearly an areal feature of western South America extending from the Ecuadorian coast to the Bolivian *altiplano*. It is also widely found in native languages of North America, but it has not been attested in the intervening regions. Mapuche has a conditional dependent verb form with personal pronominal markers for subject and subject-object combinations, but it is not part of a switch-reference system.

Nominalization plays a central role in Quechuan and Aymaran. The most common type of relative clauses is based on the presence of a nominalized verb. Complement clauses are formed by combining a nominalized verbs with a case marker. The addition of case markers to verb forms that have not previously been nominalized is not allowed. A neighboring language, Cholón, has no such restriction and can attach case markers both to nominalized verbs and to finite verbs.[46] Nominalizations play an equally important role in the Barbacoan languages and also in Mapuche, which lacks case markers but has a relatively large inventory of nominalizing strategies. It may not be possible to give a full account of the role of nominalizations in the languages of western South America, especially the extinct languages, for lack of relevant data.

As we have seen, the personal pronominal system of Quechuan and Aymaran is based on a four-way distinction represented by *four grammatical person cat-*

egories. This system, in which the category of number (plurality) only plays an accessory role, is most clearly visible in Aymaran, where each of the four categories receives an independent formal expression, for instance, in the Jaqaru possessive markers *-ŋa* 'my', 'our (exclusive)'; *-ma* 'your'; *-pʰa* 'his/her/its/their'; *-sa* 'our (inclusive)'. In its conservative varieties, Quechuan has the same system. However, no clear underived morpheme can be reconstructed for the first person plural inclusive (often referred to as 4th person), so that the Quechuan system appears to be the result of a process of restructuring based on an Aymaran model. On the other hand, many American Indian languages and language families have personal pronoun systems that include a separate expression for the 1st person plural, whereas 2nd and 3rd person plural are indicated by derived expressions. Such systems seem to reflect four-person systems of the Aymaran type. Many of them subsequently developed a secondarily expressed distinction between an inclusive and an exclusive 1st person plural. Such an Aymaran-style four-person system is reflected in several Andean languages and language families, including Mapuche, Puquina, Uru-Chipayan, Cholón, Guahiboan and Chibchan (e,g. in Kogi). Furthermore, it is also widely found outside the Andean region, for instance, in Cariban, Jêan, Guaycurúan, Matacoan, some Mayan languages, and Uto-Aztecan, suggesting that it harks back to the oldest layers of New World linguistic history. Interestingly, the Aymaran languages seem to be among the few language groups that preserve this system in its unmodified form. (For a similar case in Matacoan, see Campbell typology, this volume.)

The *case suffixes and postpositions* in Quechuan and Aymaran are not unique in that such markers are widely used within the South American languages, particularly in the languages of the Andean region. Case markers are easily borrowed as can be seen in Amuesha, which has borrowed the Quechuan benefactive marker *-paq*, and in (Barbacoan) Awa Pit, which shares the accusative and genitive case markers with Quechuan. Aguaruna (Jivaroan) has an accusative-genitive marker *-na* (Overall 2008) similar to the Aymaran locative-genitive marker *-n(a)*. The stacking of case markers, either genitive or instrumental with another case, is frequent in Quechuan (e.g. *runa-pa-ta* 'that of the person (accusative)' with genitive marker *-pa* and accusative marker *-ta*). Such combinations (with genitive) are even more usual in Mochica. In Quechuan, several monomorphemic case markers, such as (Quechua II) ablative *-manta*, appear to have a composite origin (allative *-man* followed by accusative *-ta*). Complex case markers are also found in Cholón (Alexander-Bakkerus 2005: 143–151) and in Uru-Chipayan (Cerrón-Palomino 2006: 122–130).

One aspect that distinguishes Quechuan and Aymaran from most other languages in South America is the use of an explicit *accusative case marker* on the direct object. Constenla Umaña (1991) recognizes an accusative-marking typological area in Southern Colombia (in the Barbacoan languages Awa Pit and Guambiano, and in Páez), which includes Quechuan. As we saw, accusative case

markers are also found in the Jivaroan languages. Apart from these, only Puquina has a possible accusative marker, which is not consistently used in the only source for that language (Oré 1607). Most other languages in South America leave the object unmarked.[47]

Quechuan and Aymaran are dependent marking languages. Possession is indicated by a genitive case marker on the noun or pronoun referring to the possessor. At the same time, the grammatical person of the possessor must be encoded on the possessed noun. So, *possessive phrases* in Quechuan and Aymaran *are doubly marked*, provided that both constituents of the construction are overt; e.g. Ayacucho Quechua *runa-pa wasi-n* [person-GEN house-3POSS] 'a person's house'.[48] The same system is found in Jivaroan (Overall 2008). Barbacoan Awa Pit and Mochica have dependent marked genitives, but no doubly marked constructions. Most other languages in the Andes and their surroundings lack dependently marked genitives. They are either head-marked (Mapuche, for instance), or the genitive is indicated by juxtaposition. Muisca (Chibchan) and the Kawesqar language in the south of Chile have a genitive marker *-s* on the dependent noun.

The predominant constituent order in Quechuan and Aymaran is *subject/actor-object-transitive verb* (SOV), although there is some freedom. In dependent clauses and nominalized clauses the orders $SOV_{converb}$ and SOV_{nom} are compulsory. In noun phrases a modifier precedes its head. Although there are few studies of constituent order in the other Andean languages, the rule that a modifier must precede its head in noun phrases is generally adhered to. There is much variation, however, with regard to the position of the adjective. In Colombia, except in its extreme south, most languages place the adjective after the noun it modifies. In northern Chile and northern Argentina, there was a belt of languages that did so as well (Atacameño, possibly Diaguita, Lule, Santiago del Estero Quechua); e.g. Atacameño *puri lari* [water red] 'red water' against Quechuan *puka yaku* [red water] 'red water'.

Validation of information and data source marking (evidentiality) were initially treated as characteristic features of the Andean languages, Quechuan and Aymaran. Although these categories are encoded differently in both language groups, by means of constituent-bound affixes operating at the sentence level in Quechua and by a mix of discourse markers and verbal affixes in Aymaran, their presence is required in nearly every sentence. Thanks to the expansion of research on South American indigenous languages, it has become clear that the distinctions represented by these categories are part of a widespread phenomenon found in a large number of South American languages, if not in most (see Aikhenvald 2004). A problem with evidential categories is that they have not always been properly recognized in grammars and linguistic descriptions, due to their unfamiliar and unexpected characteristics. Extensive systems of evidentials are found in the Tucanoan languages of Colombia and Brazil and in many other South American languages.

Double negation, consisting of a negative adverb and an extra discourse marker, is not only found in Quechuan and in Aymaran, but also in Amuesha (Arawakan), which has undergone much influence from Quechuan; e.g. Amuesha *ama m^{w}en-o* [not want.3SUBJ-NEG] 'he/she does not want (it)' (Duff-Tripp 1997: 128) and Quechuan *mana muna-n-ču* [not want-3SUBJ-NEG] 'he/she does not want (it)'. This is yet another areal feature that spills over to the Andean eastern slopes in Central Peru. (For other examples see Campbell typology, this volume.)

The *numeral systems* of the Andean languages stand out by their consistent decimal structure. The major languages of the Andes all have such a system, whereas the languages of the Amazonian region seldom have more than three true numerals. It is one of the major points of distinction between the languages of the Andean highlands and the Amazonian languages. Most of the numeral systems found in the Andes do not contain terms that can be related to terms in other languages, nor is it possible to establish clear etymologies for them. Aymaran also has a decimal system, but it clearly features a broken down five-term system complemented with terms borrowed from Quechuan (Cerrón-Palomino 2000: 199).

12. External distribution of typological features found in Andean languages other than Quechuan and Aymaran

To complete this overview and finalize this chapter we may just mention a few typological characteristics found in other Andean languages. Due to the absence or shortage of documentation on most of these languages, only a few characteristics can be mentioned.

Numeral classifiers or measure terms were found in Mochica and in Cholón. By their function they resemble the numeral classifiers found in Tsafiki (Barbacoan), in Cuna (Chibchan), and in Mayan languages, rather than the so-called Amazonian classifiers known from the literature (Derbyshire and Payne 1990). The Mochica classifier system is furthermore exceptional in that it counts tens and hundreds rather than individual units.

A distinction between *possessed* and *non-possessed* nouns was found in Mochica and in Atacameño (e.g. Atacameño possessed *čei-ya* versus non-possessed *čei* 'name' in *is-čei-ya* 'your name'). It connects these languages with many similar cases in Mesoamerica and in the Amazonian lowlands of South America (including the pre-Andine Arawakan languages).

An elaborate *gender system* is found in the Uru-Chipayan languages in combination with a weakly developed system of personal pronominal marking. In Chipaya, a robust gender agreement appears to compensate for the relative lack of explicitness in subject and object marking. Grammatical gender is otherwise not found in the Andes, except to a limited extent in Páez (Colombia). Gender distinctions play a role in languages east of the Andes, for instance, in Arawakan, Ara-

wan, and Chapacuran languages, in Bora, Cholón, Chiquitano, Mosetén, Tehuelche and Yaruro. However, true gender agreement systems, such as found in Arawan and Arawakan languages and in Uru-Chipayan, are not frequent.

Morphological passive exists in Mochica in several formations. Mochica also has a special case marker that is affixed to the noun referring to the agent of a passive construction. The frequent use of the passive construction in Mochica is reminiscent of the Yucatecan and Cholan (Mayan) languages in Meso-America, where passive constructions in which the agent can be explicitly indicated are not uncommon either. A morphological and probably recently formed (agentless) passive is also found in Mapuche. Apart from these cases, explicit passive is absent from most of the Andean region, though it is found in other parts of South America.

Lexical prefixes related to shape or instrument are found in Esmeraldeño (with nouns) and in Lule, Jebero (Cahuapanan) and Panoan languages (with verbs). The geographical distribution is too diffuse to uncover a pattern.

Insofar as case is concerned, Mapuche is exceptional in that it only has one frequently used case postposition (*mew*), which indicates oblique case. Instead, it indicates most of its sentence-internal relations through verbal morphology. *Rudimentary case systems* are also found in the Arawakan languages. Systems in which case relations are indicated by means of inflected prepositions or postpositions are found in Chiquitano, in Guajiro (Arawakan) and in the Cariban languages. They are clearly not native to the Andes.

Notes

1 Writing this chapter was made possible thanks to the support of the Research Center of Linguistic Typology of LaTrobe University (Victoria, Australia). In this chapter abbreviations are avoided. Nevertheless, the following abbreviations have been used: C consonant, GEN genitive, NEG negative, NOM nominalization, O or OBJ object, POSS possessive, S or SUBJ subject, V verb (predicate) or vowel, 1/2/3 first, second, third person.

2 The term *Central Andes* would be too restrictive in this context because it is often used for referring to the Andean highlands located in the central part of Peru.

3 The coastal valley site of Caral has been highlighted as a leading center from that period (Shady and Kleihege 2008; see also Moseley 2001: 112–127).

4 This observation holds for the *Chumbivilcas* language in the south-west of the department of Cuzco and the so-called 'outer languages' or *hahuasimi* in the southern part of the department of Ayacucho.

5 Our preference for the term Aymaran is motivated in Adelaar with Muysken (2004: 170). The addition of the ending '*-(a)n*' is meant to indicate that this language family comprises several languages, of which Aymara is the principal one.

6 In subsequent publications, Torero introduced alternative terminologies for his subgroups, of which the version in his final work (Torero 2002) is as follows: Quechua I is rebaptized as *Wáywash*, divided into a northern group, *Wáylay*, and a southern group, *Wánkay*. Quechua IIB and IIC are jointly referred to as *Chínchay*. Quechua IIA is called

Límay, and the whole of Quechua II is referred to as *Yúngay*. The term Chínchay, in particular, is now frequently used in writings referring to the expansion of Quechuan.

7 The translation 'hill' for *maca* is circumstantial, hence tentative (Torero 2002: 242).

8 Quilter *et al.* (2010) report the discovery of a list of numerals from an unidentified language, which was found in the ruins of a church at Magdalena de Cao near the mouth of the Chicama river. The language at issue may have been Quingnam or the Fisherman's language (if not identical).

9 The name *Jequetepeque* is from Mochica. According to Torero (1986), *Pacasmayo* is a Quechua deformation of Quingnam *Pacatnamu* based on folk etymology.

10 There is a modern interpretative edition of the colonial Lule and Tonocoté grammar, with an introductory essay by Raoul Zamponi (Maccioni 2008).

11 A case of an alleged external connection that may eventually be looked at again is Stark's (1968) proposal of a genetic link between Mochica and the Mayan languages.

12 A radical position against the common origin option is taken by Hardman (1985), who rejects the possibility of a common ancestor within the Americas. At the other end, Orr and Longacre (1978) defend the idea of a common origin by treating most of the borrowed lexicon as inherited and by reconstructing an inflated Quechuan-Aymaran protophonology meant to account for all the diversity found today.

13 In the current Aymara orthography this verb is written as *jala-*.

14 In relation to the Cholón language, Torero (2002: 160) uses the expression "*un quechua por armar*" ('a Quechua to be put together'), suggesting that Pre-Proto-Quechua may have had the structure of a language with prefixes such as Cholón.

15 Suffixation is the dominant morphological device in many languages of the Andean region. Most languages, however, have at least a few prefixes. Quechuan and Aymaran have none.

16 Unlike in many other languages, aspect in Quechuan and Aymaran is strictly separated from tense and mood. Portmanteau suffixes combining aspect and number are found in Central Peruvian Quechuan varieties.

17 In the Aymaran languages all roots end in a vowel, at least underlyingly.

18 In Constenla's (1991) study of the languages of the so-called *Área Intermedia*, situated north of the Middle Andean area, accusative case marking is mentioned as a specific feature of the Middle Andes and some of the languages at its northern fringe.

19 The qualification of the personal reference system in terms of four persons defined by the (non)inclusion of speaker and addressee can be attributed to Hardman (1978).

20 An example is the verbal suffix *-mu-* in Quechua as compared to *-ni-* in Aymara. Both affixes combine the meanings of 'motion towards the speaker or to a place the speaker has in mind' (with verbs of motion) and 'action performed in a place removed from the speaker' (with verbs of non-motion). Although frequent in Aymara, *-ni-* (or any equivalent) appears to be absent or obsolete in Jaqaru.

21 The term "transition" stems from the Peruvian colonial grammar tradition.

22 Coler-Thayer (2010) reports the existence in Moquegua (Peru) of an Aymara dialect that lacks a vowel length distinction and in which the verbalizing element is zero-marked.

23 Some Quechuan dialects of the Yauyos area (Peru) may have copied the homonymy of the genitive and locative marker from Aymaran (Cerrón-Palomino 2000: 209); they have *-pa* for both functions (Taylor 1994).

24 In the literature on Quechua the mirative has been referred to as the *sudden discovery tense* (Adelaar 1977) or as a narrative past.

25 Jaqaru also has a series of alveolar affricates and a series of palatalized alveolars. They can probably be attributed to innovations.
26 Except in dialects heavily influenced by Aymara, such as Puno Quechua, where borrowed affixes preserve their glottalized and aspirated consonants (Adelaar 1987).
27 Cerrón-Palomino (2000) does not reconstruct the velar nasal as one of the phonemes of Proto-Aymaran.
28 For an overview of such similarities, which were collected in search of a possible genetic link between Quechuan and Aymaran avoiding the obvious borrowings, see Campbell (1995).
29 Jaqaru *paĉaka* may also be a secondary loan from Quechuan, like several other Jaqaru numerals.
30 A previous attempt at detecting linguistic areas including the Middle Andes is found in Torero (2002: 511–544). For a study of the Area Intermedia, which borders on the Middle Andes to the north, see Constenla Umaña (1991).
31 A similar distribution for mid vowels is found in Santiago del Estero Quechua, where vowel lowering is conditioned by an adjacent uvular or *r*.
32 Clairis (1977: 381–5) analyzes Kawesqar as tri-vocalic, but Aguilera's (1978, 1997, 1999) publications feature a more extensive vowel system for that language. For Tehuelche en Teushen see Fernández Garay (1998) and Viegas Barros (2005).
33 We are referring to Bridges's work on Yahgan (Bridges 1894), not to recent recordings.
34 One of the two Cholón roots brought forward as containing a uvular stop by Torero is <col> 'to die'. Observe the similarity with the Culli word for 'to die', which could be significant if the two languages were somehow related. The similarity with Quechuan *qul^{y}u-* 'to die out', 'to be lost' is also suggestive.
35 Cerrón-Palomino (2006: 38–39) observes that the Chipaya uvulars do not trigger vowel lowering, as in the tri-vocalic languages Quechua and Aymaran. This may also apply to some of the other languages mentioned here.
36 In Jebero, glottalization is limited to a velar stop (*k'*) and an atypical rhotic (*r'*). It is presumably the result of relatively recent changes (Valenzuela, forthcoming).
37 Note that Lule had a set of instrumental prefixes, as is also the case in Cahuapanan and Panoan languages. Esmeraldeño had shape-based classifiers as prefixes.
38 For degrammaticalization see Norde (2009). Note that degrammaticalization is used here as a gradual notion to the extent that possessive modifiers are still grammatical markers but less integrated with the nominal base than prefixes would be.
39 The phonetic notation used here is tentative because the sources for Puquina do not permit an exact rendering of its sounds. Note that the consonant weakening observed in *po=wakas* does not apply to all nouns.
40 Torero rejects the term passive for the construction at issue and prefers the term inverse (as opposed to direct).
41 The Mochica verbal subject markers are mobile elements. They can occur as suffixes on the verb or as clitics on a lexical element that precedes the verb. By contrast, tense markers (except for future tense) stay with the verb base as suffixes.
42 For the term post-base see Payne (1990: 231).
43 The Jebero verb is not exclusively suffixing. It also has a set of instrumental prefixes.
44 Note, however, that Goajiro (Arawakan), with no contact with Middle Andean languages, also uses more than a 100 suffixes, many of them doubtlessly verbal derivational (Alvarez 1994: 39). A similar situation holds for Matacoan languages (Campbell, personal communication).

45 With the exception of the 1subj > 2obj combination in the Quechua II varieties.
46 The same holds for the Tupí-Guaranían languages.
47 Tupí-Guaranían uses the dative/locative marker *-pe/-me* on animate objects.
48 Torero (2002: 143) mentions an extinct Aymaran variety in which the possessed was not marked for person. This is necessarily the case in Ecuadorian Quechua, where there are no possessive markers anymore.

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Languages of the Chaco and Southern Cone

Lyle Campbell and Verónica Grondona

1. Introduction

This chapter has two goals. One is to present an overview of languages of the Southern Cone, concentrating on their classification and on structural traits which characterize languages in the region. The second goal, related to the first, is to try to answer the question, is the Gran Chaco a linguistics area?

2. Defining the region

The Southern Cone refers to the southernmost geographic region of South America, south of the Tropic of Capricorn, generally taken to refer minimally to Argentina, Chile, and Uruguay, and more broadly also to Paraguay and parts of Bolivia and southern Brazil. The Gran Chaco, defined geographically, includes the northern part of the Southern Cone and adjacent zones north if it. The Chaco is the extensive dry lowland plain of central South America, stretching some 647,500 sq km across northern Argentina, Paraguay, southeastern Bolivia, and southern Brazil. It is bordered on the west by the foothills of the Andés, on the east by the Paraná and Paraguay rivers, on the north by the Mato Grosso plateau, and in the south by the Río Salado (Braunstein 1996: 19; Brauenstein and Miller 1999: 1; Métraux 1942: 197). The Chaco is also a culture area (cf. Métraux 1942; Murdock 1951; Miller 1999), a geographical area characterized by cultural traits shared across ethnic boundaries. It is sometimes assumed (Sherzer 1973, 1976) that culture areas will automatically coincide with linguistic areas, though this is not always the case (see Campbell 1997: 330–331). This raises the question of whether the Chaco might also be a linguistic area, as well as a culture area, a question examined here. A linguistic area is defined as a geographical area in which, due to language contact and borrowing, languages of the region come to share certain structural features – not only borrowed words, but also shared elements of sound and grammar. Other names sometimes used to refer to linguistic areas are *Sprachbund*, diffusion area, adstratum, and convergence area.

The Southern Cone, on the other hand, does not correspond to any specific culture area, but rather in addition to the Chaco culture area, includes the Pampean, Chilean, Patagonian, and Fueguian culture areas, and partially overlaps the Bolivian, Paraguayan, Eastern Lowland, and Atlantic culture areas (Murdock 1951). There is nothing cultural or linguistic which naturally sets the Southern Cone apart, just its geographical position at the southern end of South America.

We look first at the languages of the Chaco, then at the other languages of the Southern Cone. An asterisk after the name of a language indicates it is extinct. Alternative names are given in parentheses. More details for most of these languages can be found in Campbell, Classification, this volume.

3. Languages of the Chaco

More than 20 languages from six language families are typically assigned to the Chaco region, though this is for geographical and cultural reasons, rather than for linguistic ones.[1] The languages of the Gran Chaco as typically designated are the following.

Guaicuruan (Waykuruan):
- Southern Guaicuruan Argentina
  - Abipón*
  - Pilagá
  - Toba (Qom, Namqom)
  - Mocoví
- Kadiwéu (Kadiwéu [Caduveo, Mbayá, Ediu-Adig], Mbayá) Brazil
  (Fabre 2005; cf. Mason 1950: 279–280; Ceria and Sandalo 1995).

Guachí* Brazil

Payaguá* Paraguay

Both Guachí and Payagua are often thought to have Guaicuruan connections, though the evidence for this remains uncertain. (See Viegas Barros 2004.)

Matacoan (Mataco-Mataguayan)
- Chorote (Chorotí, Manjuy) Argentina, Paraguay
  (Dialects: Iyo'wujwa, Yohwaha, Manjuy)
- Nivaclé (Niwaklé, Chulupí, Ashluslay) Paraguay, Argentina
- Maká (Macá, Enimaca, Enimaga) Paraguay
- Wichí (Mataco, Mataguayo, Wenhayek) Argentina, Bolivia
  (Dialects: Nocten, Güisnay [Pilcomayo Wichí], Vejos [Vejoz, Aiyo, Hueshuo])

Matacoan languages are diversified on a scale similar to Germanic languages. The Matacoan and Guaicuruan families have often been thought to be linked in a larger Macro-Guaicuruan "stock", but the evidence presented so far for this is not sufficient to support such a classification.

Mascoyan (Mascoian, Maskoyan, Lengua-Mascoy, Enlhet-Enenlhet) Paraguay (Fabre 2005)
- Guaná (Cashquiha, Kaskihá, Enlhet) (not the Arawakan Guaná).
- Sanapaná (Quiativis, Quilyacmoc, Lanapsua, Saapa, Sanam)
- Angaité (Enenlhet)
- Enlhet (Lengua) dialects or langauges
  - Enlhet (Lengua Norte)
  - Enxet (Lengua Sur, Lengua, Vowak, Enlhit, Enhlit)
- Enenlhet (Mascoy, Mascoi, Machicui, Toba-Maskoy, Emok, Toba-Emok, Toba of Paraguay, Quilyilhrayrom, Cabanatith, Tujetge)

These language names overlap and are not always distinguished consistently. (See *Ethnologue* [Lewis 2009] for alternative treatments.)

Lule-Vilelan* Argentina (Viegas Barros 2001)
- Lule*
- Vilela(*)[2]

Zamucoan
- Ayoreo (Ayoré, Moro, Zamuco, Pyeta, Yovai) Bolivia, Paraguay
  - (Dialect: Tsiricua, Tsiracua)
- Chamacoco (Ishiro, Jeywo) Paraguay
  - (Dialects: Chamacoco Bravo [Tomaraho, Tomaraxa, Tumarahá], Ebitoso [Ebidoso, Ishiro])

Adelaar with Muysken (2004: 623) includes extinct Guarañoca as Zamucoan, possibly an Ayoreo dialect.

Tupí-Guaranían (a branch of broader Tupían family, Rodrigues and Cabral [this volume]) is often left out of lists of language families in the Chaco, since most Tupí-Guaranían languages are found outside the area. Nevertheless, some Tupí-Guaranían languages are found in the Chaco or near enough for some scholars to associate them with the Chaco. The languages in question include:

Guaranían Branch
- Guaraní Antigo (Guaraní, old Guaraní) Brazil
  - Paraguayan Guaraní (Guaraní, Guaraní Paraguayo, Avañe'e), Argentina, Brazil, Paraguay
- Kaiwá (Kayowá, Kaiowá, Caiová, Caiguá, Pãi, Pãi-Tavyterã) Brazil, Paraguay
- Nhandéva (Ñandeva, Chiripá) Argentina, Brazil, Paraguay
- Chiriguano (Ava, Simba) Argentina, Bolívia, Paraguay
- Isosó (Izozó, Izoceño, Chané) Bolívia, Paraguay

Tapiete Argentina, Boliva
Guayakí (Guayaquí, Aché, Axe) Paraguay
Guaráyoan Branch
Guarayo (Guarayú) Bolivia
Sirionó Bolivia
Yúki (Yuqui) Bolivia
(Braunstein 1996: 19; Tovar 1961: 35–46; Tovar and Tovar 1984: 35–48; *Ethnologue* has some differences.)

Some other language families which have representatives in the Chaco but which are treated in more detail in other chapters of this book are: Arawakan, Aymaran, Jêan, Quechuan (see Stark [1985] for Quechua [Quichua] of Santiago del Estero, Argentina, also Adelaar [this volume]).

4. Other languages of the Southern Cone

The other languages of the Southern Cone not generally assigned to the Chaco include the following.

Atacameño* (Cunza, Kunza, Atacama, Lipe) Chile, Bolivia, Argentina
(Local varieties: Apatama, Casabindo, Churumata, Cochinoca)

Charrúan* Uruguay, Argentina, Brazil
Charrúa*
Güenoa* (Minuane)
Chaná* Uruguay

Very little is known of these languages (see Adelaar with Muysken 2004: 614; Viegas Barros 2009b; Loukotka 1968: 61–2; Tovar 1961: 29).[3] See Campbell, Classification (this volume), for other names associated with Charrúan.

Chonan (Tehuelchean, Chon family) Argentina, Chile (Viegas Barros 2005: 47–72)
Chonan proper
Island Chonan
Ona* (Selknam, Selk'nam, Shelknam, Aona) Argentina, Chile
Haush* (Manekenken) Argentina, Chile
Continental Chonan
Tehuelche (Aoniken, Aonek'enk, Inaquen, Patagón) Argentina
Teushen* (Tehues, Patagón) Argentina
Patagón Costero* (Viegas Barros 2005: 67).

Gününa-Küne* (Gennaken, Northern Tehuelche, Puelche, Pampa, Gününa Yajich) Argentina

Gününa-Küne is often listed as an isolate, though Viegas Barros (2005: 138–152) presents evidence of its remote affiliation with Chonan, not a member of that family per se but parallel, an "external relative".

Viegos Barros argues that long extinct Querandí may be related to Gününa Küne (2005: 70–71). For details of other languages often associated with Chonan, see Campbell, Classification (this volume) and Viegas Barros (2005).

Chono* Chile (Viegas Barros 2005: 45–46, 83–107; see Campbell, Classification, this volume, for details.)

Huarpean* (Warpean) (dialects or languages) Argentina
Huarpe* (Allentiac)
Millcayac*

Mapudungun (Mapudungu, Araucano, Mapuche, Maputongo, "Auca") Chile, Argentina
(Dialects: Huilliche ["Beliche", Veliche, Huiliche], Ranquel, Neuquén, Rucachoroy, Río Negro, Chubut, Cautín, Mapocho [Mapuchu], Ngoluche [Moluche, Nguluche], Picunche, Pehuenche.) (See Campbell, Classification, this volume, for additional details.)

Qawasqaran (Alacalufan, Kawesqaran) Chile
Qawasqar (Northern Alacaluf, Alacaluf, Kaweskar, Kawésqar, Kawaskar, Aksánas)
(Dialects: Kawésqar, Tawókser)
Alacaluf (Central Alacaluf, Hekaine)
Southern Alacaluf (Halakwalup, Pecheré)
(See Campbell, Classification [this volume] and Viegas Barros [2005] for additional details about Qawasqaran.)

There are a number of other extinct languages in the Southern Cone that are poorly known, some with no linguistic attestation at all. Extinct and extremely poorly known languages of northwest Argentina include the following:

Diaguita (Caca, Kakán; with subdivisions Calchaquí, Capayán, Catamarcano, Hualfín, Paccioca [Pazioca], Pular, Quilme, Yacampis) (northwest Argentina and northern Chile [Adelaar with Muysken 2004: 405; Tovar 1961: 31]).
Humahuaca (Omaguaca) (with apparent subdivisions: Fiscara, Jujuy, Ocloya, Osa, Purmamarca, and Tiliar [Adelaaar and Muysken 2004: 410]) – mostly unattested

but assumed to have been spoken in the Quebrada de Humahuaca, Argentina. Mason's (1950: 302) "Ataguitan" grouped Atacameño, Diaguita, and Humahuaca, though the suggestion was never accepted (Adelaar with Muysken 2004: 27).

Tonocoté (possibly related to Lule-Vilela).

Other extinct and extremely poorly known languages of Argentina, Chile, Paraguay, and Uruguay include: Aparea Argentina, Axata Darpa Paraguay, Caguan (Kaguan) Argentina, Casota Argentina, Chechehet ("Pampa") Argentina, Chono* Chile, Comechingón Argentina, Culaycha Argentina, Curumro (Kurumro) Paraguay, Dawainomol Paraguay, Divihet Argentina, Emischata Argentina, Guacará Argentina, Malquesi Paraguay, Masa Argentina, Matará Argentina, Ohoma Argentina, Pehuenche (Peguenche) Argentina, Quelosi Argentina, Sanavirón Argentina, Sintó (Assek, Upsuksinta) Paraguay, Supeselo Argentina. Taguaylen Argentina, Taluhet Argentina, and Yaperú (Naperú, Apirú) Paraguay (see Campbell, Classification, this volume, for details).

5. Structural overviews

While it is not possible to present structural descriptions of many the languages of the area, it will be helpful to provide a brief structural overview of two languages, Nivaclé and Mocoví, representing two of the dominant language families of the Chaco, Matacoan and Guaicuruan, respectively.

5.1. Nivaclé (Matacoan) general description

Nivaclé is complex both in its phonology and morphology. Many of the features mentioned here are exemplified in the Typology chapter (Campbell, this volume) as are several of the possible areal traits in the Chaco which are discussed below. (For details, see Campbell, Díaz and Ángel, forthcoming.) Much of what is handled in the syntax of many languages is signalled in Nivaclé by its rich bound morphology and clitics. Nivaclé has several linguistic traits that are rare or unique.

Its has 21 *consonants* and 6 *vowels*, including glottalized (ejective) stops and affricates, and a unique phoneme, /k͡l/, a complex segment with voiceless velar stop and voiced alveolar lateral approximant articulated and released as simultaneously as humanly possible. The basic *word order* (constituent order) is SVO (Subject-Verb-Objet), (AVO in a different formulation, A = subject of transitive verb, 'agent', V = verb, O = object of transitive verb). It also has the orders NG (Noun-Gentive, that is, possessed-possessor), NA (Noun-Adjective), and NP-Rel (Noun-Relative Clause). It essentially lacks adpositions (prepositions or postpositions); these relational and locative functions are signalled by suffixes and clitics attached primarily to verbs and by relational nouns (noun constructions that func-

tion as adpositions in other languages). The co-occurrence of the orders NA, NG, and NP-Rel is typical of languages with SVO word order, though they usually also have Preposition-Noun, mostly lacking in this language.

Nivaclé lacks an overt verb 'to be' in equational clauses (zero copula), as in:

(1) *k'utsxaʔ eklem-che* [old.woman chorote-FEM] 'The old woman is a Chorote'

(2) *ła łaʔ ux* [DEM.VIS.FEM fruit big] 'This fruit is big'

Verbs are very complex and can bear many affixes and clitics. Nevertheless, there are no direct markers in the grammar, neither on verbs or elsewhere, for *tense*. The senses of tense are given by the demonstratives, whose semantic contrasts provide inferences for tense, and by temporal adverbs. Nivaclé is of the few languages of the world which have *nominal tense*, exemplified in the contrast between (3) and (4):

(3) *tsex* ***na*** *towak*
grow DEM.VIS river
'the river is rising'

(4) *tsex* ***xa*** *towak*
grow DEM.INVIS.KNOWN river
'the river rose'

These sentenses are identical except for the demonstratives. There is no tense marked on the verb *tsex* 'to rise/grow'; the temporal information of the proposition is inferred from the demonstratives. In (3), ***na*** 'this, that' [visible], since it is visible, also implies 'present'; in (4) ***xa*** 'this, that' [known by personal experience, but not visible] implies 'past', seen previously but no longer present.

The *verb alignment* is *active-stative* – there are two series of pronominal affixes on verbs, one that indicates subjects of active verbs (which report events, happenings), whether they are transitive or intransitive, and the other which signals both the object of transitive verbs and also the subject of stative intransitive verbs, verbs which refer to states and not to events or happenings, as the active verbs do. (See below for examples.)

There is a *gender* contrast in nouns. However, the gender is not marked overtly on the nouns, but is seen in the demonstratives, masculine or feminine, which accompany the nouns, as in:

(5) *na p'eklenaxa* [DEM.VIS.MASC capybara] 'the capybara'
(6) *ła swuklax* [DEM.VIS.FEM anteater] 'anteater'

Also the plural suffixes for many nouns differ depending on whether the noun is masculine or feminine:

(7) *p'eklenaxa-s* [capybara-PL.MASC] 'capybaras'

(8) *pasenxa-y* [catfish-PL.FEM] 'catfish' (plural)

There are several other *plural* markers, a very complex system.

Nivaclé distinguishes first person plural *inclusive* ('we all', 'all of us') and *exclusive* ('we' [I/we and others, but not including you], 'ours' [but not including yours]), in pronouns, possessive morphology, and in verbs, for example:

(9a) *kaswaʔtša* 'we (Inclusive)'
katsi-tata [1PL.POSS.INCL-father] 'our father' (Inclusive)
šta-ʔwan [1PL.INCL-find' 'we found it' (Inclusive)

(9b) *yiwaʔtšeʔɬ* 'we (Exclusive)
yi-tata-ʔeɬ [1POSS-father-PL] 'our father' (Exclusive)
xa-ʔwan-eɬ [1SG-find-PL] 'we found it' (Exclusive)

The *demonstrative* (deictic) system is complex, with numerous demonstratives distinguished according to semantic traits: whether the referent is visible or not, is known by personal experience or not, is known only from reports or hearsay, or is dead or moving (for examples, see Campbell, Typology [this volume]). As mentioned, the demonstratives play a role in inferring the *tense* of an utterance; for example, if a referent is visible, then by inference it is present, in the present tense. *Evidentiality* is also inferred from these semantic traits of the demonstratives. For example, if a speaker uses a 'visible' demonstrative, as in (3), repeated here as (10a), this indicates that the speaker affirms the truth of the utterance because he/she knows it from personal experience, from seeing it:

(10a) *tsex* ***na*** *towak*
grow DEM.VIS river
'the river is rising'

If, on the other hand, a demonstrative *pa* that indicates 'known only by report or hearsay' (not from pesonal experience) is employed, as in (10b), the utterance has the evidential sense that the speaker does not affirm the truth of what is said, rather only reports it as something told by others and not known from personal experience:

(10b) *tsex* ***pa*** *towak*
grow DEM.HEARSAY river
'the river rose'

Nivaclé has a very rich system of *directional* affixes and clitics, marked primarily on the verbs, sometimes on other parts of speech. These include, for example, 'hither', 'thither', 'upward', 'downward', 'inside something small', 'inside something big', 'upon', 'down, below', 'along', 'with', etc. (See Campbell, Typology, this volume, for examples.)

Nivaclé has a genitive (possessive) classifier for possessed domestic animals and another for possessed prey (hunted animals). Genitive classifiers are

relatively rare cross-linguistically, but are especially unusual in a language which has no other classifiers of any sort. (See Campbell, Typology, this volume, for examples.)

5.2. Mocoví (Guaicuruan) brief structural overview (Grondona 1998)

Mocoví has 21 native consonants (2 more in Spanish loans) and 8 vowels, 4 short and 4 long (i, e, a, o, i:, e:, a:, o:). It has uvular stops (*q* and *ɢ*) and a palatal series (*č, ǰ, š, ñ, lʸ*). The basic word order is SVO, though sentences with two overt noun phrases are uncommon. The order VOS is also quite common. Subjects and objects are cross-referenced on the verbs by affixes and clitics. Verb alignment is Active-Stative, signaled by these verbal agreement markers. It is a head-marking language; for example, possession is marked on the possessed noun, not on the possessor. In possessive constructions of two nouns, e.g. 'the boy's dog', the possessor (G) can either precede the possessed noun (N) or follow it with no apparent change of meaning, that is, both GN and NG are equally possible word orders. The set of possessive affixes on nouns is very similar to the Stative markers for person on verbs. The demonstrative system is complex, with oppositions that mark absence vs. presence of the noun modified, motion coming vs. going, and position standing vs. sitting vs. lying. It has very complex verbs, which can bear a notable number of affixes or clitics. It lacks prepositions other than *ke* which introduces oblique noun phrases.

Pronominal proclitics precede the verb stem, while number for pronominal persons follows the stem. Active person markers signal the subject of transtive verbs and the subject of active intransitive verbs, those which report events (something happened). Inactive person markers signal to object of transitive verbs and the subject of stative intranstive verbs (those which report states but not events or happenings). Person proclitics cannot co-occur on a verb. The language does not allow multiple pronominal proclitics marked on a single verb; if both a subject and object would seem to be called for, then Mocoví follows the person hierarchy 1 > 2 > 3 to determine which pronominal marker should appear. For example, in (11) with an overt subject noun phrase 'my horse' and object 'water', the verb is marked with *n-* 'third person active' for the subject of this verb class, but has no overt marker for the 'third person' object.

(11) *so* *i-lo* *šipeɢaɢ* *n=eʔet=tak* *waɢayaq* *ke*
DEM.going my-GEN.CLASSIF horse 3ACT=drink=PROG water in
ǰi *kanal*
DEM.HORIZ canal
'My horse is drinking water in the canal.'

Mocoví has alienable and inalienable possession. Inalieanbly possessed nouns must appear with a possessive pronominal marker or a marker to indicate that no

possessor is specified. Alienably possessed nouns usually do not occur with possessive markers; for them to be possessed and bear possessive pronominal markers, these nouns take *n-* 'alienable prefix' immediately before the root, with the possessive proclitic before that.

Verbs can bear marking for the following categories: negation, indefinite agent, pronominal agreement, hither, progressive aspect, directional clitics, object number, and evidentiality. Since verbal arguments are signaled by pronominal markers on the verb, a verb by itself can constitute a full sentence, for example:

(12) *sekinagir*
s=ekin-aG=ir
2ACT=greet-1PL=2SG.RESPECT
'we greet you'

Overt noun phrases are cross-referenced by the pronominal markers on the verb. For example, in (11) 'my horse', the active subject of 'drink', is cross-referenced by the *n-* 'third person active' affix for this class of active verb.

The Active-Stative contrast in intranstive verbs for first person sg is seen in the following:

(13) *sopil*
s=opil
1ACT=return
'I return'

(14) *ǰipe*
ir=ipe
1INACT=refresh
'I am refreshed/get freshened up.'

Mocoví has an existential copula *ʔwe* 'there is, there are, there exists', as in: *ʔwe laʔlege* 'there is sugar'. Predicate possession is also signaled by this copula where the possessed noun bears possessive pronominal marking, where 'I have a duck' is equivalent to 'exists my-duck', as seen in (15):

(15) *ʔwe* *i-lo* *ʔgañi*
exist my-GEN.CLASSIF duck
'I have a duck'

For equational clauses, Mocoví has no copula (zero copula), as in:

(16) *da-ho* *i-owa*
DEM-HORIZ my-wife
'That is my wife.'

Relative clauses are not introduced by relative pronouns; rather, the relative clause just immediately follows the noun it modifies. Adjectives lack comparative or superlative forms. Negation is marked by a proclitic, as in (17):

(17) *se=s=aʔde:n*
NEG=1ACT=know
'I don't know.'

The evidential verbal enclitic *=oʔ* indicates events that the speaker has not personally witnessed.

Mocoví also has the gentive classifier *lo* for possessed animals, as illustrated in (11) and (15) above. (For details and examples, see Grondona [1998].)

6. Diffusion among Chaco languages

Some observations of potential diffusion of linguistic traits involving Chaco languages have been made from time to time, though a Chaco linguistic area has never officially been established (see Grondona 2003).

Tovar (1961) presented four geographically defined South American language "types". His Type I ("Chaco languages") contains "Mataco" [Wichí] and "otras lenguas chaqueñas: el Toba […] el Chorote y, como típica de las lenguas de Brazil oriental, el Bororo" [other Chaco languages: Toba […] Chorote, and as typical of the languages of eastern Brazil, Bororo] (Tovar 1961: 195). He believed the languages of this type to be the most primitive of the continent, "informes" [without form, imperfect, of a vague or indeterminate form] (Tovar 1961: 195). Taking "Mataco" [Wichí] as the main example of his Type I, he says "not only is the word order free and does not belong to the grammar, rather to style, but the morphology lacks certain resources which to our linguistic understanding appear indispensable for indicating grammatical relations and case"[4] (Tovar 1961: 195, our translation). Other evidence of these languages being "informes" he finds in what he takes to be the lack of number distinction in many personal pronouns and possessive prefixes, and in that the various elements that mean reciprocal, direction or causative or durative, etc., can be made to follow the verb. He also cites instances of polysemy in Wichí (which perhaps all languages have) as evidence of its being lexically "informe" (Tovar 1961: 195).

Obviously none of Tovar's traits is especially helpful for defining a linguistic area, since they are imprecise and some are inaccurate. His free word order, for example, turns out to be SVO basic order in most of the Chaco languages, as Tovar and Tovar (1984: 202) later acknowledged, though with other pragmatically determined orders as also possible. Clearly the "informe" trait supposedly shared by these languages is of no value, since it is imprecise, and worse, it is wrong: these languages are not "primitive", nor *informes*.

Rona (1969–1972) also spoke of "types" of South American languages, meaning areal associations. He says that "numerosas lenguas del área chaqueña presentan ciertas particularidades en común" [numerous languages of the Chaco area have certain peculiarities in common], although he only mentions two shared traits: "una falta de diferenciación dentro de los fonemas sonantes dento-alveolares" [a lack of contrast in the dental-alveolar sonant phonemes], that is, "indiferenciación de los fonemas sonánticos dento-alveolares" [lack of contrast in dental-alveolar sonants], and "en lo relativo a su sistema pronominal y a las personas del verbo" [a lack of contrast] in relation to the pronominal system and the sytem of verbal persons] (Rona 1969–1972: 94). Rona is not explicit about which languages he would assign to his "Chaco type", but he does mention a "similitud muy grande entre" [a very large similarity between] Vilela and Charrúa – although there is extremely little attestation of long extinct Charrúa – and he asserts that the scarcely known Charrúa "pertenecía al tipo chaqueño" [belongs to the Chaco type] (Rona 1969–1972: 97). He mentions in addition that his Chaco type also included Lule-Tonocoté, but not Guaraní (Rona 1969–1972: 97), though on what basis Guaraní is set aside we are not told.

Kirtchuk (1996) has perhaps been the most explicit in declaring the existence of a Chaco linguistic area / *Sprachbund*, but based on only a single shared trait for which he did not really present the evidence in the various languages (though he cites references that address the evidence). He concluded:

> In reality, on the basis of the data in other languages of the Chaco [beyond Pilagá] (for the Matacoan group, cf. Tovar 1981: 188, for the Guaycurúan and Zamuco-Chamacoco groups, cf. Sušnik 1987: 82–84 and 115–117 respectively), our current hypothesis – and it is no more than a hypothesis – is that the kind of deixis / nominal clasification discovered here, with its temporal prolongations (and the cognitive implications of all of it) characterize, mutatis mutandis, the totality of the languages of the region.
> (Kirtchuk 1996: 83)[5]

> In any case, it is clear that there was in the Gran Chaco – also – a mixing of languages not yet studied: it is clear to us that the speakers, who, in addition to their mother tongue have command of other(s) – because of kinship, location, etc. – are relatively numerous. In the past these cotacts could have been much greater.
> (Kirtchuk 1996: 83)[6]

The trait he referred to is the similar deictic systems found in Chaco languages, which have distinctions involving visibility-invisibility, known from firsthand experience vs. from hearsay, etc. (see below), coupled with the observation that these are not limited just to demonstrative notions, but have temporal and other implications in these languages. This may be a true characteristic of Chaco languages (see below).

Braunstein (1996) makes the most empassioned call for investigation of diffused features shared among Chaco languages, though he seems to have an imprecise grasp the concept of diffusion of linguistic traits across the languages in a lin-

guistic area and emphasizes instead language mixture (Braunstein 1996: 23, 28–29). Braunstein and Miller (1999: 10) state it in the following way: "With the absence of physical obstacles to communication facilitating internal population movements, moreover, a dynamic process of ethnogenetic symbiosis occurred and continues to occur, leading to communities of mixed cultural and linguistic origin." Braunstein (1996: 29) seems to call for an areal linguistic investigation: "This calls for a re-examination of our ideas about the languages of the area and perhaps a classification which separates the related languages according to the character of their relation on an areal scale."[7] He appears to want to challenge traditional historical linguistics, which is aimed at understanding both what is inherited and what is borrowed, where he apparently takes borrowed traits (and multilingual societies) to be language mixture. In this vein he says:

> Mixed languages: it is not to be discounted that we should begin to study some of the Chaco languages as the product of mixing and diffusion more than as the results of exclusive development of internal tendencies as has been the classical historical linguistics perspective.
> (Braunstein 1996: 28)[8]

> We have documented, on the other hand, situations of Mataco [Wichí] and Chulupí [Nivaclé] factions living together from around the beginnings of the century on the left bank of the middle Bermejo that can perhaps be described as ethnically stratified which inplied, beyond doubt, some degree of intelligibility. We consider highly probable the historical existence of other sociocultural interethnic formations, mixed or undifferentiated in the enormous territory occupied historically by the Matacos and, in particular, in its northeastern edge.
> (Braunstein 1996: 23)[9]

> But interactions between bands belonging to different linguistic groups were quite common, and, once stabilized, the interethnic units formed of such alliances were the origin of mixed languages and cultures.
> (Braunstein and Miller 1999: 11)

Braunstein (1996: 28) believes that there are indicators that the Maká and possibly the "Chulupí [Nivaclé] are groups that originated through the process of ethnic mixture". Braunstein (1996: 22–23) surveyed others who have held similar views about language mixture (e.g. Lafone Quevedo 1896: 134, 1915: xiii; Palavecino 1928; Tovar 1981: 20), and others who have favored the idea could be added (e.g. Rossi 2003: 126; Sušnik 1978: 123–124).

The notion of language mixture is a recurring theme in older literature about Chaco languages – one often repeated, even today – though what was meant by it was not always clear. On one level, it appears just to be a recognition of shared traits due to language contact, and in this sense it is not inconsistent with modern views on what happens in linguistic areas. Thus, for example, Tovar (1951) says:

> neighboring languages have mixed, because it is known that these tribes absorb one another, in the clearest and most perceptible way by means of stealing the women and annihilating neighboring men; in these mixtures and absorbtions not only words pass from one language to another, but forms, which justifies the claim that in a happy moment Lafone made, speaking of the 'chameleon' tendencies' of these Chaco languages [Lafone 1896: 138].
> Tovar (1951: 401)[10]

If by the passing of "forms", not just words, he only meant the diffusion of structural traits across language boundaries, then this is consistent with areal linguistics. However, others intended their notion of language mixture to mean more wholesale convergence than just the borrowing of some traits; some of Braunstein's pronouncements, above, exemplify this. This view of language "mixure" is not at all what we find in the Chaco (or anywhere else, see Campbell [2006]; Campbell and Poser [2008]), and is inconsistent with areal linguistics. Nevertheless, this outlook appears to be an attempt to deal with some of the observed common traits among different Chaco language families; it also reflects probable misinterpretations of earlier reports about behavior in these bilingual situations. Campbell and Grondona (2010) describe what has been called dual-lingualism (passive multilingualism) in Misión La Paz, Salta Province, Argentina, where three indigenous languages – Chorote, Nivaclé, and Wichí – are spoken, but interlocutors in conversations usually do not speak the same language to one another. There is extensive linguistic exogamy, but husbands and wives typically speak different languages to one another. Individuals identify with one language, speak it to all others, and claim only to understand but not to speak the other languages spoken to them. Campbell and Grondona argue that this dual-lingualism has been misunderstood in past observations, not as multilingual conversations with each participant using his/her language though it may be different from the language of other participants in the conversation, but as language mixture. Padre Doroteo Giannecchini (cited by Lafone Quevedo 1895) seems to have noticed the dual-lingualism of the area:

> From Pikirenda to another 30 (?) leagues more or less, continuing to the Paraguay [River] they take the name *Chulupies*: and all the right bank of the Pilcomayo from our Mission of Noctenes [Wichíes of Tartija, Bolivia] to the Paraguay it is the same tribe, with words and customs somewhat different; but in substance, it is the same language, and among them they understand one another perfectly EACH ONE SPEAKING HIS JARGON. [Our emphasis – LC/VG.]
> (Lafone Quevedo 1895: 344)[11]

We believe that observers misunderstood the dual-lingualism among these groups and took it to mean they were speaking varieties of the same language to one another rather than engaging in bilingual interactions, or they erroneously argue that these are "mixed" languages, based apparently in part on observations of communication among their speakers.

We think those who see language mixture have just not understood the patterns of multilingualism in this region. The languages in fact show no evidence of "mixture" (heavy influence of language contact; see below).

Grondona (2003) presented a number of possible Chaco areal traits known to be shared among at least some of the languages of the Chaco:

- Lack of voiced stops
- Simple vowel systems (5–6 vowels in Matacoan languages, 4 vowels in Guaicuruan languages)
- Possessive constructions with nouns denoting animals and a morpheme that functions as animal classifier
- Animal classifier
- Alienable-inalienable opposition in nouns
- 'Alienable' prefix (occurs between the possessive prefix and the noun root on alienable nouns)
- Prefixes on bound roots denoting unpossessed forms
- Plural and collective suffixes for nouns denoting trees
- Very complex verb forms
- Active-inactive system
- Prefixes marking person
- Suffixes denoting number
- Locative/directional affixes (expressing the location/direction of the action expressed by the verb)
- Suffix expressing object number (not consistently used)

Adelaar with Muysken (2004) also noted some shared traits among Chaco languages:

> […] it is clear that the [Chaco] languages share a number of grammatical and phonological features, as far as can be ascertained. There is nasalisation and vowel harmony, and consonant clusters generally are simple. There often is an Active or ergative system with SVO/VS word order. Person is marked by prefixes, both on the noun and the verb. In the noun there often is an alienable-inalienable possession distinction.
> (Adelaar with Muysken 2004: 499)

A number of other isolated cases of shared traits among certain languages have at times been observed in the Chaco. For example, Viegas Barros (2002: 140) attributes aspects of Maká phonology to the influence of language contact: "the 'abnormal' situation with respect to the number of Maká's back fricatives […] would be explained, in part, as the result of presumed Maká contact with other languages".[12] He did not, however, present explicit evidence from other languages to support this contact explanation. Adelaar with Muysken (2004: 386) noted that there are similarities between Lule-Vilela and Matacoan "which may be due to contact".

All the structural traits mentioned previously should be investigated more thoroughly.

6.1. The shared linguistic traits of Chaco languages and the Chaco as a potential linguistic area

The following are traits that have been proposed as diffused and possibly characteristic of a Chaco linguistic area – those with no source indicated are from personal observation. Many of the traits turn out to be of little positive value for defending a Chaco linguistic area; however, some do appear to offer some support, and these are identified at the end of this chapter. We begin with phonological traits.

6.1.1. Postulated phonological areal traits in the Chaco

Lack of voiced stops (Grondona 2003). This trait would distinguish several Chaco languages from Tupí-Guaranían and many Amazonian languages, which do have voiced stops. However, some Chaco languages do have voiced stops, for example some Guaicuruan languages and Vilela, while numerous other SA languages also lack them, including most of the languages from the neighboring Andean zone (Adelaar, this volume). This is not adequate for supporting a Chaco linguistic area.

Simple vowel systems (Grondona 2003). The vowel systems of Chaco languages allegedly are relatively simple, and indeed Enlhet (Lengua Norte) has only three vowels. However, most have more, four vowels (with length) in Guaicuruan languages, five or six vowels in Matacoan languages, five vowels in Lule. A number of languages elsewhere in South America also have simpler vowel systems, Quechuan and Aymaran with /i, u, a/, Amuesha (Arawakan) /e, a, o/ Qawasqar (Qawasqaran) /ə, a, o/, and Selknam, Tehuelche, and Teushen (Chonan) /e, a, o/; Shipibo-Konibo (Panoan) has only four vowels (/i, ɨ, a, o/) (see Campbell, Typology [this volume] for details). Limited vowel systems is a trait shared by most of the languages of Büttner's (1983: 179) "central highland Andean region". Chaco languages do not stand apart on this feature.

Voiceless bilabial fricative [ɸ].[13] In fact, only a few Chaco languages have a voiceless bilabial fricative, Nivaclé and Maká, while dialects of Wichí have *ɸʷ* alternating with *hʷ*, though it appears that Proto-Matacoan had **ɸ* (reflexes of which are *ɸ, hw, w, ɸʷ* in Matacoan languages). This is a reasonably rare sound worldwide; Maddieson (1984: 226) found it in 21 languages, six of them from South America. It is also found in a number of other South American languages, some of them nearby. It is sometimes written with <f> orthographically, though mostly identified as bilabial in the sources, e.g. "f" Diaguita (Adelaar with Muysken 2004: 409); "f" Guató and Yaté (Rodrigues 1999: 175); and *ɸ* Kaingang (in most dialects, but *β* in São Paulo dialect) (Rodrigues 1999: 178). It is also found in several other

languages of the Southern Cone: *ɸ* in Mapudungun (Zúñiga 2000: 5; Adelaar with Muysken 2004: 516), "*f*" Qawasqar (Adelaar with Muysken 2004: 566), "*f*" Yahgan (Adelaar with Muysken 2004: 568–569), as well as several others elsewhere in South America, e.g.: Mosetén (Sakel 2003: 10, 23), several Cariban languages, several Arawakan languages (Aikhenvald 1999: 76); Jamandi and Banawá dialects of Madi (Dixon 1999: 296); Sáliba (Aikhenvald and Dixon 1999: 371); Andoké (Aikhenvald and Dixon 1999: 372); Cayapa (Maddieson 1984: 395); and written as *f* in Yanomam (Aikhenvald and Dixon 1999: 346); *f* Trumai (Aikhenvald and Dixon 1999: 353); and *f* Yaruro (Aikhenvald and Dixon 1999: 378). It occurs allophonically in some Quechua dialects (from /p/ syllable-finally). This trait is clearly neither well-represented in the Chaco nor rare enough in neighboring and other SA languages to qualify it as support for a linguistic area.

Vowel nasalization. Adelaar and Muysken (2004: 499) list constrastive nasalization as a Chaco trait; however, most Chaco languages do not have contrastive nasal vowels, though Zamucoan languages do (Briggs 1973: 156; Adelaar and Muysken 2004: 496; Sušnik 1957, 1972) and Tupí-Guaranían languages do. Contrastive nasalized vowels is a widespread featue elsewhere in South America. Tovar and Tovar (1984: 202) speak of a possible phonological typology in South America based on the frequent oral-nasal contrast in vowels. It is a characteristic trait of the Amazon Linguistic Area. (See Campbell, Typology, this volume.)

Wichí (Matacoan) has nasalization of vowels next to /h/ (called rhinoglottophilia), allophonically. This is possibly due in part to contact with languages which have nasalized vowels, for example neighboring Tupí-Guaranían. "Montaraz" dialects of Nivaclé, closer geographically to Zamucoan languages, reportedly have a more marked predictable vowel nasalization where a final vowel-nasal sequence optionally becomes just a strongly nasalized vowel (Sušnik 1957, 1972). While this could have developed independently, it is also possible that contact with neighboring languages with nasal vowels could have influenced the development.

Vowel harmony (Adelaar with Muysken 2004: 499; cf. Gerzenstein and Gualdieri 2003). Several Chaco languages have certain vowel alternations suggestive of vowel harmony, though quite different from one language to the next. Something like vowel harmony is found in Mascoyan (Adelaar and Muysken 2004: 497), Lule and perhaps also Vilela (Viegas Barros 2001: 20–1, 2009a), Toba (Guaicuruan) (Messineo 2003: 47, 50), and Chorote (Matacoan). However, most languages of the Chaco lack vowel harmony, while several other SA languages have it, e.g. Mosetén (Sakel 2003: 30), Chacobo, Yaminawa (Panoan) (Loos 1999: 232), etc.

Palatalization. Messineo (2003: 36) sees palatalization as "un fenómeno muy difundido en todas las lenguas del Chaco" [a much diffused phenomenon in all the languages of the Chaco]. However, what may count as palatalization differs markedly from language to language. Some have a whole palatal(ized) series, including sonorants and obstruents, for example Mocoví (above, Grondona 1998),

Toba (Messineo 2003: 36). Other Chaco languages have only *kʸ* (Chorote, Wichí) or alveopalatal fricatives and affricates (Nivaclé [Matacoan] with *š* and *č*, derived historically from *x* and *k*, respectively, see Campbell and Grondona [2007]); Abipón had *nʸ* (*ñ*) (Maddieson 1984: 400); Ayoreo has *ñ* and *Ñ*, the latter voiceless (Briggs 1973: 156; cf. Adelaar and Muysken 2004: 496); and Guaraní has *lʸ* and *nʸ* (*ñ*) (Maddieson 1984: 407). In short, the palatalized sounds among Chaco languages are varied, not a uniform phenomenon, and are not different from languages elsewhere in SA. Languages of the Andean Linguistic Area typically have *lʸ* and *nʸ* (*ñ*), and alveopalatal affricates (Büttner 1983: 179), e.g. Quechuan, Aymaran, and Diaguita (Adelaar and Muysken [2004: 409] with the whole palatal series). Constenla (1991: 123–125) lists voiceless prepalatal fricative, palatal lateral, and palatal nasal as traits of his postulated Ecuadoran-Colombian subarea. Klein (1992: 35) suggested that palatalization is a common phonological feature in languages of the Southern Cone.

Glottalized consonants. Glottalized consonants are only intermittantly present in languages of the Chaco. Matacoan languages and Vilela and apparently also Lule (Viegas Barros 2001: 17–18, 25; Zamponi 2008) have a series of glottalized stops and affricates; most of the other languages do not. Enlhet (Lengua Norte) has glottalized sonorants /m', n', ŋ', w', y'/, but no glottalized stops or affricates. This trait is actually quite limited among Chaco languages, and it is found in various other SA languages, especially well-known from languages of the Andes region (Büttner 1983: 179). (See Campbell, Typology, this volume.)

Uvular (post-velar) consonants. In the Chaco uvular stops and sometimes uvular fricatives are found in Vilela, Guaicuruan languages, and phonetically in some Matacoan languages. Uvulars *q, q'*, and *χ* are postulated for Maká by Gerzenstein (1989a, 1989b, 1995; cf. Viegas Barros 2002), though their phonemic status may require more investigation, since no minimal pairs are offered and the other Matacoan languages (Chorote, Nivaclé, Wichí) also have phonetic uvular stops, but only as allophones of velars in particular phonetic environments. Uvulars are found elsewhere in SA, for example a trait of Büttner's (1983: 179) "central highland Andean" area.

Voiceless "l". In the Chaco, voiceless "l" ([ɬ]) is found in the Matacoan languages, Enlhet (Lengua Norte), Lule and Vilela, but not in all of the Chaco languages. While not common, it is also found in several languages outside the area (see Campbell, Typology, this volume).

Absence of retroflex affricates and fricatives. The absence of a trait is generally not satisfying for defining things that may be shared by diffusion; neverless, absence of retroflex consonants has been said to be a trait characteristic of languages of the Gran Chaco when compared with other neighboring areas. While these sounds are missing in the Chaco, their presence in other South American languages is so sporadic that Chaco languages can hardly be said to be distinguished by this absence.

Simple consonant clusters. Adelaar and Muysken (2004: 499) notes among traits which the Chaco languages share that "consonant clusters generally are simple". However simple clusters might be defined, the complexity of permitted consonant clusters varies across Chaco languages. Lule has complex consonant clusters (Adelaar with Muysken 2004: 386; Zamponi 2008). Nivaclé (Matacoan) permits reasonably complex clusters, for example: /łkxašik/ 'his armpit', /łxpɑʔk/ 'straw, grass', /štnoɸom/ 'we squeeze the juice out', /łɸtsuʔk/ 'his palm tree'. At the same time, many other SA languages also do not have very complex consonant clusters, e.g. most Amazonian languages, Jêan (Ribeiro 2006), Mapudungun (Zúñiga 2000: 7), etc. This trait does not distinguish languages of the Chaco area from others, and it is not useful for framing a linguistic area – perhaps a majority of the world's languages lack complex consonant clusters.

To sum up the proposed phonological areal traits, none is particularly supportive of a linguistic area. While several may involve diffusion, most are found in only some of the Chaco languages while being found also outside the Chaco, so that they do not characterize the Chaco languages as behaving similarly to one another nor as distinct from others.

6.1.2. Grammatical traits

SVO Word order. Shared basic word order has been cited as a trait of Chaco languages, though views as to what that order is have not all always been clear. Tovar (1961: 195) thought word order in languages of the Chaco was free; however, these languages mostly have SVO for transitive clauses and VS for intransitive clauses. Tovar and Tovar (1984: 202) later corrected their mistake (see Adelaar and Muysken 2004: 499). SVO is true of at least Matacoan and Guaicuruan languages, and Ayoreo (Zamucoan) (Adelaar and Muysken 2004: 497; Bertinetto 2010). Perhaps Enlhet (Lengua-Maskoy) does not fit the pattern, though it is hard to interpret Grubb's (1914: 319) statement that "the verb precedes the noun, whether subject or object" – perhaps an indication of VSO or VOS? Chiquitano, not far away, also has (S)VO (and Prepositions) (Adelaar and Muysken 2004: 488). On the other hand, Lule has SOV (with NA, Modifier-Head). This is also true of neighboring Santiago del Estero Quechua, and possibly of extinct Diaguita, "charateristic of a whole range of languages native to northern Argentina and northern Chile" (Adelaar and Muysken 2004: 380).

Some languages further to the south also share SVO order at least to a degree. Gününa Küne (Adelaar and Muysken 2004: 562, 579) has both VOS and SVO (and NA, Postpositional). Yagan (Adelaar and Muysken 2004: 579) is SVO/SOV (with AN, Postpositional). On the other hand, Selk'nam (Adelaar and Muysken 2004: 560, 579) has OVS order (with NA, Postpositions); Tehuelche (Chonan) (Adelaar and Muysken 2004: 563, 579) is SOV (NA, Postpositional); and Kawesqar (Qawasqaran) (Adelaar and Muysken 2004: 566, 579) is SOV (though with relatively

free word order) (with AN, GN, Postpositional). Further away, Constenla (1991: 125–126) lists exclusively VO order (absence of SOV) as a trait of his Venezuelan-Antillean Linguistics Area.

SVO basic word order typifies most Chaco languages, but it does not set the Chaco languages clearly apart from others.

Gender. Grammamtical gender was suggested as a Chaco areal trait by Tovar (1961), a feature of his Type I (Chaco) languages. Similarly, Aikhenvald (2000: 80) says a gender system is characteristic of "the languages of Gran Choco [sic!] and related families, e.g. Guaicuruan and Maká [Matacoan]". Matacoan, Guaicuruan, Zamucoan, and Mascoyan languages have a masculine-feminine gender distinction (Grondona 1998: 48; Briggs 1973: 156; Adelaar with Muysken 2004: 496; Bertinetto 2010; Lussagnet 1958: 123; and Sušnik 1977: 97, 114–115). The contrast is not overtly marked on the nouns but is manifested in the demonstratives which reflect the gender of the nouns they modify. (See Campbell, Typology [this volume]for examples.) In Chaco languages, third-person pronouns also have a gender distinction, and Lengua-Mascoy (Enlhet, Enenlhet [Mascoyan]) has a gender distinction also in second person pronominal markers (Sušnik 1977: 98). Thus, grammatical gender is a widely shared trait in the Chaco, though Chiriguano (Tupí-Guaranían) lacks a gender system, according to Dietrich (1986: 92).

Gender systems are not uniquely associated with the Chaco languages, but are found widely elsewhere in South America (see Campbell, Typology, this volume).

Prefixing (vs. suffixing). A number of scholars (mentioned above) suggested prefixing, particularly of person markers on verbs, as characteristic of Chaco languages. For example, Lafone Quevedo (above) had contrasted the exclusively suffixing of pronominal elements of his Andean type (Mapudungun, Aymaran, Quechuan, but also Lule and Vilela) with the prefixing "Atlantic" type (Tupí-Guaranían, Matacoan, Guaicuruan). As for the languages being predominantly suffixing vs. having prefixes (as well as some suffixes), there may well be geographical cline, much as Lafone Quevedo thought, but prefixing is not diagnostic just of Chaco languages. Most Amazonian languages have prefixes, though typically fewer prefix than suffix positions. This is probably also true of Guaicuruan and Matacoan languages. Prefixation is also found in a number of "Fuegian" languages.

This trait provides no significant support for distinguishing Chaco languages from others.

Numbers – complex numeral systems. It is possible to contrast the reasonably full set of lexical numbers of some Chacoan languages with the very small set of lexical numbers characteristic of most languages of the Amazonian area and of other Chaco languages. However, with regard to the numbers, the Chaco is neither well defined nor significantly different from elsewhere in SA. It has some languages with few numbers and others with relatively many. Lule has only four basic numbers (Adelaar with Muysken 2004: 391), Toba (Guaicuruan) may also have had

only four in pre-Columbian times (Klein 1996: 87), and modern Mocoví has borrowed all its numbers from Spanish (Grondona 1998: 91). Chiriguano and Guaraní (Tupí-Guaranían branch of Tupían) have numbers to 'five' (Dietrich 1986: 169). It is difficult to find more than a few native number terms in Wichí (Matacoan), though Nivaclé and Chorote (also Matacoan) have rather complex numeral systems (at least to 'twenty', cf. Hunt [1915: 41]) – now sharply in decline in the face of Spanish borrowings. "Zamuco" (Ayoreo, Zamucoan) was reported to have numbers at least to ten, both cardinal and ordinal by Lussagnet (1958: 136–137), though Bertinetto (2010) reports only four native numbers for Ayoreo, but many more created under "Western influence". Charrua, of which we know little linguistically, had numbers at least to 'ten' (Serrano 1946: 192). On the other hand, Andean languages, Atacameño (Adelaar and Muysken 2004: 385), and Mapudungun (Zúñiga 2000: 15), for example, have quite complex numeral systems. Proto-Chonan had numbers at least to 'six' and individual Chonan languages could count considerably beyond that (Viegas Barros 2001: 133–134). In short, numbers provide little support for characterizing Chaco languages or distinguishing them from others.

Complex plural marking on nouns. Many languages of the Chaco have complex systems of nominal suffixes signaling plural. Guaicuruan and Matacoan languages have a number of distinct affixes with differing shapes which mark plural on nouns, differentiated in part by gender. (See Adelaar and Muysken 2004: 496 for Ayoreo.) Some of the plural markers are phonetically similar across some of the languages, for example, one feminine plural marker in Nivaclé [Matacoan] is *-y/-ay* 'plural.feminine' (one of several), Toba 'paucal' is *-i* (Messineo 2003: 53), and Mocoví *-ay* 'paucal of feminine adjectives' (Grondona 1998: 88) (the latter two are Guaicuruan languages). "Kadiwéu has five plural suffixes *-(a)di, -pi, -Ga, -dodi*, and *-al:i.* The suffix -a*l:i* is a plural suffix used exclusively with nouns that refer to objects that have an elongated form (*nod:a:jol:i* 'knifes')" (Sandalo 1997: 66). Another Matacoan plural is **-l*, Wichí *-l*, Chorote *-Vl/-l*, Nivaclé *-k* (< *kl* < *l*), which can be compared with Toba (Messineo 2003: 102) and Mocoví (Grondona 1998: 51) [Guaicuiruan] *-l* 'paucal' (Toba also has *-i* paucal when the root ends in a consonant). Nivaclé also has *-eɬ*, plural marker with pronouns and verbs. Lule has plural *-l, -el, -le, -il, -yl* and Vilela has *-le, -lem, -lom* (Viegas Barros 2001: 65). This trait is not, however, limited to just Chaco languages. Nivaclé has another masculine plural in *-s*; Lule and Vilela *-s* is a plural of pronouns (Viegas Barros 2001: 66). The Kamaiurá (Tupí-Guaraní) (Seki 2000: 79) plural system is also complex. This relatively large set of nominal plural affixes in the Chaco region contrasts with some languages of other regions: "plurality of the noun is not morphologically expressed in the Jê family" (Rodrigues 1999: 183). Chiriguano (Tupí-Guaranían language in the Chaco) hardly indicates number (Dietrich 1986: 92).

Alienable-inalienable possession opposition in nouns (Grondona 2003). All Chaco languages seem to distinguish alienable and inalienable possession in some way, where typically body parts and kin terms must appear with possessive pro-

nominal affixes. This, however, is not a telling areal trait, since a majority of the indigenous languages of the Americas have a similar distinction.

Unspecified possessor marker for possessed nouns (affixes on bound roots denoting unpossessed forms, Grondona [2003]). In most languages of the Chaco, inalienably possessed nouns can bear an affix for unspecified possessor if the possessor is unknown, as in Nivaclé [Matacoan] where the marker is *wat-*; contrast: *wat-aši* 'someone's mouth' (compare *y-aši* 'my mouth', *ɬ-aši* 'his/her/its mouth'). The marker is not obviously cognate in the languages of individual families in the Chaco, but cross-family similarities in some cases suggest possible diffusion. For examples in other Chaco languages and elsewhere in SA, see Campbell, Typology (this volume).

Genitive classifiers (Grondona 2003). Matacoan, Guaicuruan, Mascoyan, and Zamucoan languages have a genitive classifier (also called possessive classifier) construction used for showing possession of domestic animals. In these languages it is not possible to say directly, for example, 'my cow'; rather, the 'possessive domestic animal classifier' is necessary, as in:

Nivaclé (Matacoan) *-iklaʔ* 'possessive animal classifier:

(18) *yi-klaʔ waka* 'my cow'

(19) *ɬ-klaʔ kuwayu* 'his horse'

Chorote (Matacoan):

(20) *i-**kya** siʔyus* 'my fish'

Maká (Matacoan):

(21) *yi-**inek** nunax* 'my dog' (Gerzenstein 1996: 56)

Mocoví (Guaicuruan):

(22) *ñi i-**lo** pyoG* '(the) my dog' (Grondona 2002: 101)

Toba (Guaicuruan) (Messineo 2003: 136, 187):

(23) *ha-na i-**lo** wa:ka* [Fem-Dem 1POSS-GEN.CLAS cow] 'my cow'

(24) *na a-lo pioq* [Fem-Dem 2POSS-GEN.CLAS dog] 'your dog'

Pilagá (Guaicuruan):

(25) *i-**lo** pyoq* 'my (own) dog' (Vidal 2001: 85)

While Toba, Mocoví, and Pilagá each have only one possessed genitive classifier *(-lo* 'domestic animal classifier'), Kadiweu (also Guaicuruan) has: *wiɢadi* 'non-female domestic animal classifier' and *wiqate* 'female domestic animal classifier', and *nebi* 'generic classifier':

(26) *l-wiɢadi* *apolokɢanɢa*
3poss-Animal.Class.NonFem horse 'his horse'

(27) *l-wiqate* *apolokɢanɢya*
3poss- animal.class.Fem horse 'his mare' (Sandalo 1995: 57).

Enlhet (Lengua-Maskoy) has *-tôščama* 'domestic animal genitive classifier':

(28) šï:mhïng šïk-tôščama [dog my-Domestic.Animal] 'my dog'
(Sušnik 1977: 50).

(29) tatáá nïn- tôščama [chicken our-Domestic.Animal] 'our chickens'
(Sušnik 1977: 117).

It appears to have an additional gentive classifier for edible vegetables', *-tô*, as in *péheyï šïk-tô* [sweet.potato my-Vegetable] 'my sweet potato' (Sušnik 1977: 117). The language may have a 'game' classifier, though this is not clear from the description, *yôngkátsma* 'game', 'man's trophy' (Sušnik 1977: 179).

The Ayoreo (Zamucoan) description is suggestive, but not completely clear. Bertinetto (2010) reports the classifiers *-achidi* 'pet, vehicle', *yui* (F *yugué*) 'prey, victim, haul, captured/gathered object' (with irregular possessive prefixes), and the less frequent *-aca* 'plant'. Examples include: *d-achidode cuchabasucho* 'his/her/their airplanes' (3-vehicle.PL airplanes), *g-achidi* tamoco / cuco 'his/her/their dog / canoe (3-pet dog / canoe), *b-egué dutué* 'your squash' (2s-haul. squash), *b-acadie guejna* 'your corn plants'.

This feature appears to be a solid Chaco trait, though its geographical extent needs to be determined. It is also in nearby Chiquitano:

(30) *y-au tamokoš*
1POSS.SG-animal dog
'my dog' (Adelaar with Muysken 2004: 480).

Of course, classifiers in South American languages are quite common, though "classifiers in possessive constructions are rarer across the world's languages than noun classes or numeral classifiers [… Nevertheless,] possessed classifiers are found in […] a number of South American Indian languages (Nadëb, from the Makú family; Carib[an], Tupí-Guaraní, Jê[an], some North[ern] Arawak[an] and some Guaicuruan languages" (Aikhenvald (2000: 147) (see the Typology chapter [Campbell, this volume] for other SA cases).

Some Chaco languages have two genitive classifiers, one for domestic animals and another for game (prey), as in Nivaclé [Matacoan]:

(31) *y-axeʔ* tašinša
1SG.POSS-game.CLAS deer
'my deer'

Contrast (31) with (32):

(32) *y-ikla?* tašinštax
1SG.POSS-domestic.animal.CLAS goat
'my goat'

Maká (Matacoan) has a related but somewhat different system, with three genitive classifiers: *-lin-ek* 'domestic animal', *-wut* 'animal that one rides', and *-en-ed-xu'* 'cultivated plant' (Gerzenstein 1996: 56). Mocoví (Guaicuruan) does not have the 'game' possessive classifier (though, like other Guaicuruan languages, it has the classifier for domestic animals); nevertheless, the word for 'prey, game', *-ate:neg*, does not take the alienable prefix *n-* when possessed, as one would predict from its meaning (Grondona 1998: 68, 2002: 91). We can add that "Tupí-Guaraní[an] languages have also two, one equally for pets, but the other for preys [game animals], and none for other alienable possessions" (Rodrigues 1997: 73; on Guaraní see Adelaar and Muysken 2004: 480).

The systems with two contrastive possessive classifiers, one for domestic animals and another for game (prey), suggests areal convergence – it is shared by several Chaco and nearby languages, e.g. Tupí-Guaranían (Rodrigues 1997: 73).

Complex verb forms (Grondona 2003). While complex verbal morphology is characteristic of Chaco languages, it does not set them apart from other languages, nor are they all equally complex. For example, Bertinetto (2010) reports for Ayoreo (Zamucoan) that "verbs have an exceptionally simple paradigm" and "there is a remarkable shortage of derivational processes", though "relatively rich in compounds". Nevertheless, he presents as the morpholgical schema for the indicative verbs:

PREFIX-THEMATIC.VOWEL-ROOT(+/-MOBILESYLLABLE)-PLURAL(-LEXICAL SUFFIX). Verbs in languages of the Andean and Fuegian regions are also complex, and "complex verb morphology (more complex in Arawakan, but fairly significant also in the other language families)" (Derbyshire 1986: 560–561) is postulated as an areal feature of the Amazon.

Perhaps related to this is the trait Tovar (1961: 195) gave for languages of his Type I (Chaco languages), where he says that various elements that mean reciprocal, direction or causative or durative, etc., can be made to follow the verb. It is true that in a number of these languages, these mostly derivational verbal elements are suffixes, but this is scarcely helpful for defining a specific Chaco linguistic area, since elements with these functions are suffixed in many languages, for example in Quechuan and Aymaran. Examples of some of the morphological complexity of Nivaclé verbs can have is seen in the following examples:

(33) *xa-klat-it=ši=ša?ne* [1ACT-rot-CAUS=INDEF.LOC=PL.OBJ 'I cause them to rot'
xa-wa-n-kumaj=ščam [1ACT-REFLEX-DIR-run-DOWNWARD] 'I fell (on my stomach)'

xa-y-asinay-eɬ=ʔin [1ACT-VERB.CL-talk-PL=INTENSIVE] 'we (exclusive) are talking'
tsi-apen-xat=ʔin [1STATIVE-shame-CAUS=INTENSIVE] 'I am ashamed'

Active-stative Verb alignment. Active-stative alignment characterizes many of the Chaco languages and may be a legitimate area-defining trait (Grondona 2003; Adelaar and Muysken 2004: 499). Matacoan and Guaicuruan languages are clearly active-stative (for Toba, Adelaar and Muysken [2004: 489]; Messineo 2003: 61); Enlhet (Lengua-Maskoy, Mascoyan) appears to be (Grubb 1914: 319). Guaranían is well known as an active-stative language.

Nivaclé (Matacoan) exemplifies active-stative alignment; *xa-* '1 person active' (first person sg subject of event); *tsi-* '1 person stative' (first person sg object of transitive verb and subject of stative intransitive verb), as in (34):

(34)

Active (agentive, event)	Inactive (state, object)
xa-ɸin 'I kiss him/her'	*tsi-ɸin* 'he/she kisses me'
xa-xuʔx 'I bite it'	*tsi-xuʔx* 'he/she bites me'
xa-klan 'I kill it'	*tsi-klan* 'he/she kills me'
xa-waɸ 'I die'	*tsi-ʔwat'ax* 'I was born'
xa-ʔwakličˇ 'I walk'	*tsi-taɸakes* 'I know'
xa-kumaʔx 'I run'	*tsi-tawaklʔey* 'I forget'

Mocoví verbs fall into the following groupings (from Grondona 1998):

Intransitive verbs with active marking:
motion: *ayo* 'to fly', *owo* 'to walk', *ʔe:t* 'to escape to run away', *ača:r* 'to stand up', *anat* 'to fall', *ik* 'to go', *qawa* 'to walk (a few steps)', *eʔλiwi* 'to fetch water'
human/animate activity: *ato* 'sneeze', *owir* 'to arrive', *aλit* 'to play', *aʔa* 'to menstruate', *ašil* 'to get married', *awog* 'to copulate', *epit* 'to smile', *koʔo* 'to give birth', *oʔon* 'to get married', *oʔwet* 'to get dressed', *onog* 'to get naked, to undress', *osog* 'to get naked, to undress', *qogon* 'to urinate', *ato* 'to yawn',
inanimate activity: *eʔya:m* 'to boil'
perception: *aʔg* 'to hear'

Some examples of intransitive active verbs are:

(35) ***s***-aλit [1.ACT play] 'I play'

(36) ***s***-anatn)i [1.ACT fall.down] 'I fall down'

(37) ***s***-qawa [1.ACT walk] 'I walk'

(38) ***s***-oʔwet [1.ACT get.dressed] 'I get dressed'

Intransitive verbs with stative marking fall into the classes:

state: *edo:n* 'to get food poisoning', *awig* 'to burn, get/be burned', *ilew* 'to die', *ečag* 'to cut oneself, get/be cut', *kemar* 'to get/be full', *ona:* 'to get/be stuck', *alola* 'to get/be sick', *aʔwat* 'to get/be swollen', *apyoʔo* 'to get/be dirty', *oʔči* 'to be afraid', *oʔdagtetek* 'to get/be scared', *ewal* 'to feel lazy'
change of state: *eyala* 'to hurry up'
performance without control: *esawλi* 'to slip', *esal* 'to vomit'

Some examples are:

(39) ***ir**-esawλi* [1.INACT slip] 'I slip'

(40) ***ir**-ilew* [1.INACT die] 'I die'

(41) ***ir**-esawλi* [1.INACT get.sick] 'I get sick'

Contrast the following two verbs:

(42) ***ir+**apyoʔ* [1.INACT be.dirty] 'I am/get dirty'

(43) ***s-**apyoʔGot* [1.ACT dirty] 'I dirty it (I make it dirty)'

Guaraní (Tupí-Guaranían branch, Tupían) verbs have active-stative alignment, signaled by the pronominal affixes. In Guaraní active affixes go with predicates denoting *events*, stative affixes for predicates denoting *states*. Some verb roots which take active markers are:

non-translational motion (e.g. *jere* 'turn', *ryryi* 'tremble'); translational motion (e.g. *guata* 'walk', *syry* 'flow'); human/animate activity (e.g. *jahu* 'bathe', *ñepingyi* 'clean'); inanimate activity (e.g. *guyguy* 'flicker', *kai* 'burn'); actions (e.g. *japo* 'make, do', *ñope* 'braid'); contact/affect (e.g. *aho'i* 'cover', *piro* 'peel'); cause-motion (e.g. *mondo* 'send', *roja* 'carry'), cause-possession (transfer) (e.g. *jara* 'grab', *monda* 'steal'); transform (e.g. *hesy* 'roast', *pyso* 'stretch'); mental/social actions (e.g. *mondyi* 'scare', *ja'o* 'scold'); perception (e.g. *ma'ẽ* 'look', *ñandu* 'feel, sense'); emotion (e.g. *pota* 'want', *penã* 'worry, suffer'); knowledge and belief (e.g. *kuaa* 'know', *rovia* 'to believe').

Some verb roots which take stative markers are:

objects (such as supernatural beings, humans, animates [= animals, insects, etc.] plants, inanimate natural objects, inanimate man-made objects, kinship terms, body parts); spatial relations (e.g. *akatúa* 'right', *mbyte* 'middle'); properties: colors (e.g. *hu* 'black', *pytã* 'red'), spatial measure (e.g. *anambusu* 'thick', *puku* 'long'), time-related properties (e.g. *aju* 'ripe', *tuja* 'old'); shape (e.g. *apu'a* 'round', *pe* 'flat'); other physical properties (e.g. *aky* 'wet', *nẽ* 'stinky'), socially-defined properties/dispositions(e.g. *ñaña* 'mean', *ka'avo* 'funny'); states: environmental states (e.g. *kã* 'dry', *ypytu* 'dark'), physical states (e.g. *ai* 'rotten', *punga* 'indigestion'), emotional states (e.g. *aguara* 'flattered', *vy'a* 'happy'); spatial disposition (e.g. *aperera* 'scattered', *opyvo* 'backwards').

A serious problem is lack of adequate descriptions of verb alignment for many of the Chaco languages. However, this feature certainly extends beyond the Chaco.

Pronominal markers. Shared aspects of pronominal affix systems have figured in a number of claims about Chaco languages and South American languages generally. Grondona (2003) cited prefixes marking person as a potential Chaco areal feature; similarly, Adelaar and Muysken (2004: 499) report for Chaco languages the characteristic that "person is marked by prefixes, both on the noun and the verb"; possessive pronominal prefixes were Tovar's (1951: 377–378) Chaco focus. Tovar (1951: 377–378) attributed this similarity to language contact: "Languages from the Mataco-Mataguayo [Matacoan] group […] present a set of possessive prefixes, which to judge by the facts in Mataco [Wichí], appear to be developed in contact with languages of the Guaicuruan group."[14] Tovar (1951: 401) saw the similarity among these languages in their pronominal systems as certainly due to morphological borrowing and thus he argued explicitly against Lafone Quevedo's (1896: 131) opinion that the similarities in pronominal systems reflect common genetic relationship among these language families. There are some basic similarities in form among some of the pronouns of these languages, which definitely invite further investigation of what might explain them.

Suffixes expressing object number (sometimes used optionally) (Grondona 2003). Some of the Chaco languages have a specific suffix to indicate plurality of the object of the verb, as illustrated by the Nivaclé (Matacoan) plural object suffix (clitic) *-šaʔne* (with the allomorph *-xaʔne* following *u*) as in: *xa-xuʔx=xaʔne* [1ACT-bite=PL.OBJ] 'I bit them' (contrast *xa-xuʔx* 'I bit it').

Inclusive-exclusive contrast in First Person Plural pronominal forms. A number of Chaco languages have an inclusive-exclusive contrast in first person plural pronouns, although it is not consistent across the area. Even within language families, some languages can have the contrast and others lack it. All Matacoan languages have it (though varieties of modern Chorote have lost it); Enlhet (Lengua-Mascoy, Adelaar and Muysken [2004: 498]), Vilela (Viegas Barros 2001: 54), and Chiriguano (Tupí-Guaranían, Dietrich [1986]) have it. Not only does the trait not reach all the Chaco languages, it is also quite common in languages outside the Chaco (see Campbell, Typology, this volume).

Directional verbal affixes (locative/directional affixes, expressing the location/direction of the action expressed by the verb, Grondona [2003]). Chaco languages typically have a complex set of directional verbal affixes (or clitics), found for example in Matacoan, Guaicuruan, Enlhet (Lengua-Maskoy, Sušnik [1977: 37]; Adelaar and Muysken 2004: 498; Grubb 1914: 319); Chamacoco (Zamucoan) (Sušnik 1986–1987: 61); and Chiriguano (Tupí-Guaranían, Dietrich [1986: 131–136]). Some Nivaclé examples are seen in (44):

(44) *x-an-ša?ne* [1ACT-put-DIR.downward] 'I lowered it' (put below)
x-an-?akxi 'I put it inside'
x-an-čiša?m 'I hang it (from high toward low)'
x-an-šiča?m 'I place it (from low toward high)'
x-an-?ape?e 'I put it on top'

Chorote:

(45) *i-en-hwom* 'he hangs it (up)' (*-en* root 'to place')

Mocoví (Grondona 1998: 93): *n-añogot-igit* 'he hides behind (something)' [*-igit* 'against']; *-a?ta* 'across', *-awgi* 'in', *-ek* 'outwards', *-e?e* 'with', *-igi* 'on', *-ñi* 'downwards', *-kena* 'hither', *-leg* 'on, over', *-ñigi* 'inside', *-ot*/*-o?ot* 'under', *-o*/*-wo* 'hither', *-owgi* 'inwards', *-pege?* 'up to', *-šigim* 'upwards', *-weg*/*-eg* 'out'.

Toba (Messineo 2003: 73): *-šigem* 'upward', *-ñi* 'downward', *-wek* 'outward', *-wo* 'inward', *-aGasom* 'toward the water', *-waq* 'toward the fire' (Messineo 2003: 86–87).

Again, while this is probably a true Chaco trait, it is not uniquely so. Several other languages in southern South America have directional affixes or clitics in verbs, though perhaps a distinction could be made between those with just a few such affixes and the Chaco languages which tend to have a very rich set of them. Also, several of the forms are phonetically similar across some of the languages, suggesting diffusion, for example 'upward': Toba *-šigem*, Mocoví *=sigim*, Pilagá *-segem* ~ *-sem*, Abipón *-hegem* ~ *-ihegem*, Kadiwéu *=bigim*; Nivaclé *=šiča?m*. (See Campbell, Typology [this volume] for other SA languages.)

Lack of verbal tense and/or presence of nominal tense. It is difficult to judge how significant it is that Matacoan, Guaicuruan, Ayoreo, and Guaraní for the most part do not mark tense on the verb – tense in these languages is either determined from context or signaled by adverbials, deictics and directionals. This is perhaps noteworthy, given the otherwise complex verb morphology in these languages. (For discussion of this in Mocoví, see Grondona [1998: 129]). Nominal tense refers to instances where a nominal or part of a noun phrase (not the verb) carries the tense information for the entire proposition, what Nordlinger and Sadler (2004) call "propositional" nominal tense. In Nivaclé (Matacoan), tense is inferred from the demonstratives, as seen above in (3) and (4). While Nivaclé temporal information is inferred from the deictics, in related Wichí, there are tense clitics, commonly attached to demonstratives and nominals (though they can also be cliticized to other constituents): *-p'ante* 'very remote past', *-te* 'distant past', *-naxi* 'past (more than one day)', *-mati* 'past (earlier that same day)', and *-hila* 'future'. Their occurrence also attributes a greater degree of specificity and definiteness to the nominals involved. Some examples are:

(46) *mansana Ø-tolu Ø-łile-**naxi** hohnat wit hi-kwes*
apple 3-come.from 3Poss-tree-**PAST** ground CONJUNCTION 3-split
'the apple fell from the tree (that we saw yesterday) and split.'

(47) *sinox-**mati** atana Ø-yił-łi*
dog-**PAST** now 3-die-ITERATIVE.SG
'the dog (from earlier today) is sick now.'

Wichí deictic markers (with four degrees of distance for static demonstratives, and two directions for the dynamic ones, 'towards' and 'away from') are also clitics and can combine with the nominal tense markers, as in:

(48) *sinox-**nax-tsu** ya-huy-ey tewuk^{w}*
dog-**PAST-DEM.away** 3-go-DIRECTIONAL river
'that dog (from yesterday that goes away from us) is going to the river.'

(49) *halo-**mati-na** i-k^{y}o*
tree-**PAST-DEM** 3Act-broke
'this tree (from earlier today, nearby) broke.' (Terraza 2008: 71–76)

(See Nordlinger and Sadler 2004, 2008; Tonhauser 2006, 2007, 2008.)

Deictic systems: Demonstratives. Chaco languages typically have a rich system of demonstratives, with forms distinguished on a number of semantic parameters which include among others visible vs. not visible. There is also a degree of phonetic similarity in the systems, which seems likely to be indicative of language contact (cf. Kirtchuk 1996). For example, Matacoan and Guaicuruan languages share forms similar in shape to *na*, *so*, *ka*, and a plural of demonstratives in *-wa*. Compare the deictics: Nivacle *na* 'visible' and Toba *na* 'coming'; N. *ka* 'dead or moving' and T. *ka* 'absent'; Chorote *so* 'distant visible' and Toba *so* 'coming' (Grondona 1998: 248).

Polar negative adjectives. In a number of Chaco languages, there is a set of adjectives which structurally are negative versions of an adjective with the polar opposite meaning, for example Nivaclé *niʔisa* 'ugly' [*ni-* NEG + *is* 'pretty, good' + *-a* NEG]; *nipitexa* 'short' [*ni-* NEG + *pitex* 'tall, long' + *-a* NEG]; and Chiriguano (Tupí-Guaranían ikawiã 'bad' [ikawi 'good' + *-ã* 'negative'] (Dietrich 1986: 143).

This trait is not confined to just Chaco languages, but is found in some other South American languages, e.g. as far afield as Tiriyó (Cariban, Meira [2000: 105]).

Resistance to borrowing. Nivaclé, Chorote (Campbell and Grondona, in press), and Enlhet (Lengua-Maskoy, Sušnik [1977: 49–66]) resist borrowing of foreign words for new items. As Grubb (1914: 196) said of Enlhet (Lengua-Maskoy, Maskoyan), "they strongly object to adopting foreign words, and when of necessity something is introduced for which they have no name, such as a kettle, rice, or a

churn, they at once proceed to coin a compound word for it […] Their equivalent for these articles [implements] are respectively: *Methling-chischama-yingmin* (the thing that causes water to be boiled), *ho-elyowea-apkatkuk-apuk* (like the eggs of the ant which has a big head), *eltikhlik-thlama-waitkya-namankuk-engminik* (the beater of the juice of the udder of the cow)." Instead of taking on loanwords, these languages rely on internal linguistic resources to create new words. One mechanism, an affix of 'similarity' for new lexical items, is common to Chorote, Nivaclé, Wichí, and Enlhet (Lengua-Maskoy, Sušnik [1977: 61–62]); they deploy an affix meaning roughly 'similar to' for introducing new lexical items, for example in linguistic acculturation, for example:

Nivaclé: *tašinš-tax* 'goat'(< *tašinša* 'corzuela' [deer] + *-tax* 'similar to'), *yiklaʔ-tax* 'board' (cf. *yiklaʔ* 'stick, tree, wood'), *ita-tax* 'match' (cf. *itax* 'fire'), *klesa-tax* 'machete' (cf. *klesa* 'knife').

Chorote: *ts'ahwanhi-tok* 'lemon' (cf. *ts'ahwan* 'bola verde' [small native fruit]).

Enlhet (Lengua-Maskoy) *yàt-na^{a}çïng* 'horse' (< *ya:t-* 'simalar to' + *na:çlïng* 'tapir') (Sušnik 1977: 61), *ho-athlawa* 'accordian' (< *ho-* 'like' + *athlawa* [aława] 'palm leaf') (Grubb 1914: 321).

6.2. Southern Cone traits – beyond the Chaco

Klein (1992: 35) listed the following as features shared by languages of the *Southern Cone*, which for her include Guaicuruan, Mapudungun [Mapuche, Araucanian], and Chonan:

1. Semantic notions of position signalled morphologically.
2. "Many devices to situate the visual location of the noun subject or object relative to the speaker."
3. "Tense, aspect, and number are expressed as part of the morphology of location, direction, and motion."
4. Palatalization is a common phonological feature.
5. More back consonants than front ones.
6. SVO as the basic word order.

The other Chaco languages share all of these traits except perhap (5), more back consonants than front ones.

Adelaar and Muysken (2004: 578) consider "areal-typological features" of the *Fuegian languages*, which for him include: Chono, Kawesqar, Yahgan, Selk'nam, Gününa Yajich, and Tehuelche. Some of the traits they mentioned, with the question of whether one linguistic family or a linguistic area might be involved, are:

1. Voiced and glottalized consonants are present but not widespread.
2. Retroflex articulations are not frequent.
3. Suffixation and encliticization are widespread.
4. Compounding and reduplication (are widespread).
5. Prefixation and procliticization are also present in a number of languages.
6. Suppletion appears to be rare.
7. Most languages appear to be of the OV type.

Adelaar and Muysken (2004: 579) note that "while these observations certainly tend to underline the similarities between these languages, it would be premature to conclude on their basis that we are dealing with a linguistic area here." All these features except (4) and (7) also characterize the Chaco languages, and neither (4) nor (7) are completely absent, represented in some Chaco languages. Features (1) [the glottalized consonants part], (2), (3), (6), and (7) are also characteristic of several Andean languages. Given these overlaps, Fuegian appears not to stand well on its own as a linguistic area.

Instances of diffusion among some non-Chaco languages of the Sourthern Cone have also been reported, for example between Chonan and varieties of Mapudungun and (Adelaar and Muysken 2004; Fernández Garay1997; Viegas Barros 2001).

7. The Chaco as a linguistic area: Comparisons with other areas

A number of other linguistic areas have been suggested in South America (see Campbell 1997: 346–352), although these vary considerably in terms of the amount and quality of the supporting evidence, reliability, geographical extent, and the amount of work that has been done on them. A comparison of traits from these other proposed areas with those that have been suggested for the Chaco, surveyed above, will help evaluate the evidence for the Chaco as a linguistic area.

Languages of the Chaco and of the Andean linguistic area (Adelaar, this volume; Büttner 1983: 179; Constenla 1991: 123–125) share a number of the traits that have sometimes been suggested as characteristic of Chaco languages: glottalized consonants, uvulars, limited vowel inventories, lack of voiced stops (not true of several Chaco languages), voiceless bilabial fricative (at least allophonically present in Quechuan), palatalization, relatively simple consonant clusters, morphologically complex verbs, a first person plural pronominal Inclusive-Exclusive contrast, and directionals on the verbs. The presence of these traits in the Andean region weakens them as significant evidence for distinguishing a Chaco Linguistics Area.

The Amazon(ian) Linguistic Area (Derbyshire and Payne 1990; Derbyshire and Pullum 1986; Dixon and Aikhenvald 1999a, 1999b: 8–10; cf. Campbell 1997: 348–350) is relatively well accepted, though its membership varies considerably depending on who is writing about it. The Chaco and Amazonia share several of

the traits mentioned above. Both have contrastive gender distinctions in nouns and genitive classifiers (part of a larger system of classifiers for some Amazonian languages). Head-marking possession (equivalent to 'his-canoe the man' rather than 'the man's canoe') is also a trait of some Chaco languages, but this is true of much of the Americas, where head-marking is common and this order of possessor-possessed is correlated with head marking. Since this trait is also found fairly widely elsewhere, it is not as useful for defining a Chaco linguistic area. Amazonian languages are said to cross-reference only one core argument on verbs, also true of several Chaco languages. A difference between the Chaco and Amazonia is that in Amazonia subordinate clauses involve nominalized (i.e. non-finite) verb forms, where many Chaco languages have subordinate clauses with finite verbs. Another trait of Amazonia is said to be that adverbs and adpositions can be incorporated into the verb, following the verb root. This is also true of Chaco languages, which have a rich set of adpositionals which attach to the end of verbs as clitics or suffixes (see directionals, above and in Campbell, Typology [this volume]). Amazonian languages are claimed to have a very small set of lexical numbers, true of many Amazonian languages, but not all; some Tukanoan languages have well developed numeral systems. It is true of some Chaco languages, but not others. This variation in the Chaco means that this trait is not evidence of a Chaco linguistic area. Complex verb morphology is true of the languages of both areas, but then it is also true of numerous languages elsewhere in South America. Amazonian languages are said to have a tendency towards ergatively-organized syntactic systems (not so strong in Arawakan as in the other families, Derbyshire [1986: 560–561]). However, several Amazonian languages also have active-stative alignment, and often these languages were not distinguished well from those with ergative systems. We suspect this means that there is considerable overlap in alignment systems in Amazonia with the Chaco's typical active-stative systems. Evidentials – "use of phrasal discourse (and possibly verification) particles" (Derbyshire 1986: 560–561; cf. Epps 2005) is another shared trait. Most Chaco languages have evidential markers, some as quotative/reportative clitics, and others as part of the demonstrative system. This constitutes at least partial overlap with respect to this trait in the two areas. Dixon and Aikhenvald (1999b: 10) find that there are very few oblique cases – often just a locative and an instrumental comitative – in Amazonian languages. Chaco languages fit this, perhaps with even fewer cases.

Some speak of a *Lowland South American Linguistic Area* (Doris Payne 1990; David Payne 1990; Klein 1992: 33–34; cf. Campbell 1997: 350–351), more inclusive than Amazonia. This possible area is not well defined, nor has it received much attention, but some shared features have been listed, although Constenla (1991) challenges most of these (and Campbell [1997: 351] challenges others). Traits mentioned for it have already been seen in the discussion so far. The Chaco shares with it: directionals in the verb and noun classification systems (though limited to genitive classifiers in several languages of the Chaco).

Areal conclusions for the Chaco. As just seen, for most traits, the languages of the Chaco region are not significantly distinct from those of other areas of South America (cf. Campbell 2006). Some of the shared traits extend far beyond just the Chaco, while others involve only some but not all of the Chaco languages. Only a very few traits seem to be found in a majority of languages of the Chaco, none absolutely unique to the area. A few of these shared traits may seem more supportive of a Chaco Linguistic Area:

1. Gender: not overtly marked on the nouns but manifested in the demonstratives which reflect the gender of the nouns they modify; the third-person pronouns also have a gender distinction.
2. Genitive classifier for possessed domestic animals.
3. SVO Word order
4. Active-stative Verb alignment.
5. Rich set of Directional verbal affixes.
6. Demonstrative system with rich contrasts including visible vs. not visible.
7. Some Adjectives as polar negatives.
8. Resistance to borrowing foreign words.

A problem, as mentioned above, is that none of these traits is limited to the Chaco; all are found in languages beyond the Chaco. We can take Tupí-Guaranían (TG) languages as raising the question about whether or how a Chaco Linguistic Area might be defined. TG shares most of these Chaco traits just listed. Since TG extends way beyond the Chaco, though with representatives in the Chaco also, its inclusion would extend the "Chaco" area way beyond the geographical extent usually recognized for the Chaco. If TG is not included, the areal feel of the features shared among Chaco languages is weakened, since so many of them would be found in neighboring languages beyond the Chaco region defined in that way. Clearly, overlapping of shared traits between Chaco languages and those beyond the Chaco region complicates any attempt to define a Chaco linguistic area with neat borders.

This list of traits is not especially compelling support for defining a Chaco Linguistic Area, though diffusion seems likely to account for a good measure of the sharing. Their distribution reinforces the point made in Campbell (2006), that the linguist's goal should be to understand the instances of diffusion cross languages without the distress of trying to define the geographical boundaries of linguistic areas, since in all known linguistic areas the decisions about which traits belong to the area and what its geographical extent is are controversial. What is important is to understand the history of the languages involved – what things were diffused or borrowed, how far each extends. It is not so important to try to force various overlapping traits to deterministic geographical schemes. With emphasis on the history of the individual traits rather than a collective geography to encompass them, we can talk about all the features listed here that are found shared among at least some Chaco languages, and we can see the sort of diffusion in the languages involved

without straining over the fact that a cleanly defined, clearly delineated Chaco linguistic area does not fall neatly out from the geographical distribution of the traits in question. In short, there appears to be considerable diffusion of structural traits involving Chaco languages in various ways, but these do not come together in such a way as to suggest a cohesive self-contained (geographical) linguistic area. Rather, they show varying linkages with languages and regions outside the Chaco on all sides, while at the same time not always linking all Chaco languages.

This is not a surprising finding, since the Chaco as a cultural area is also not distinguished clearly from surrounding regions, and Chaco groups underwent cultural influences from all directions:

> Culturally as well as ecologically, the Chaco is a transitional zone between the tropical plains of the Amazon Basin and the barren pampas of Argentina. Along the western border it was widely open to infleucnes from the Andean world, and in the east it abutted on a subtropical region inhabited by *Guaraní* tribes […] Cultural streams from all these quarters converged in the Chaco.
> (Métraux 1942: 210)

In addition to the often repeated lists of Andean and Amazonian cultural traits found in the Chaco, "the Chaco Indians share several culture traits with the tribes of Patagonia" (Métraux 1942: 212). "Trade has always been active between the Chaco tribes and their Andean, Guaraní, and Arawak[an] neighbors, and also between the various groups within the area itself" (Métraux 1942: 301). Braunstein and Miller (1999) report that in the colonial period:

> […] external pressure resulted in a series of loans and exchanges among the indigenous peoples, converting the Chaco into a cultural melting pot. The hunter-gatherers, for example, both influenced and were influenced by the neighboring agriculturalists, like the sub-Andean Arawak and Lule-Vilela or the Amazonian Guaraní.
> (Braunstein and Miller 1999: 9)

In short, the varied and overlapping cultural connections beyond the Chaco appear to parallel the distribution of the linguistics traits discussed here. There were strong cultural influences from various quarters, and the linguistic traits presented in this chapter appear to mirror that – varied influences from various directions, some reaching far, others not.

The abbreviations in this chapter are:
ACT active, Class classifier, CLASSIF classifier, DEM demonstrative, FEM feminine, GEN genitive, HORIZ horizontal, INACT inactive, INCL inclusive, INVIS invisible, MASC masculine, NEG negative, NonFem non-feminine, PL plural, POSS possessive, PROG progressive, SG singular

Notes

1 Adelaar with Muysken (2004: 416) lists 111 documented languages for the broader zone that covers the eastern slopes of the Andes and the Chaco.
2 Vilela has only one or perhaps two surviving semispeakers, but no one fully competent in the language (Golluscio and González 2008).
3 Chaná it should not be confused with Chané, though this has often happened (Mason 1950: 216). Chané is a name applied to several small Arawakan groups.
4 No sólo el orden de las palabras es libre y pertenece no a la gramática, mas al estilo, sino que la morfología carece de ciertos recursos que a nuestra conciencia lingüística le parecen indispensable para precisar las relaciones gramaticales y de caso. (Tovar 1961: 195)
5 En realidad, sobre la base de datos en otras lenguas [más que el Pilagá] del Chaco (para el grupo Mataco, cf. Tovar 1981: 188, para los grupos Guaycurú y Zamuco- Chamacoco, cf. Sušnik 1987: 82–84 y 115–117 respectivamente), nuestra hipótesis actual – y no es más que una hipótesis – es que el tipo de deixis / clasificación nominal descubierto aquí, con sus prolongaciones temporales (y las implicaciones cognitivas de todo ello) caracteriza, mutatis mutandis, a la totalidad de los idiomas de la region. (Kirtchuk 1996: 83)
6 En todo caso, es claro que hubo en el Gran Chaco – además – un mestizaje lingüístico hasta ahora no estudiado: nos consta que los hablantes que, además de su idioma materno dominan otro(s) – por razones de parentesco, vecindad, etc. – son relativamente numerosos. En el pasado dichos contactos pueden haber sido mucho mayores. (Kirtchuk 1996: 83)
7 Esto solicita una revision de nuestras ideas sobre las lenguas del área y quizás una clasificación que separe a las lenguas emparentadas según el carácter de su relación en una escala areal (Braunstein 1996: 29)
8 Lenguas mixtas: no es descartable que debamos empezar a estudiar algunas de las lenguas chaqueñas como producto de la mezcla y la difusión más que como resultantes del exclusivo desarrollo de tendencies internas como ha sido la perspectiva de la lingüística histórica clásica. (Braunstein 1996: 28)
9 Nosotros hemos documentado, en cambio, situaciones de convivencia entre parcialidades matacas y chulupíes hacia principios de siglo en la margen izquierda del Bermejo medio que pueden quizás describirse como étnicamente estratificados e implicaban, sin ninguna duda, algún grado de inteligibilidad. Consideramos altamente probable la existencia histórica de otras formaciones socioculturales interétnicas, mixtas o indiferenciadas en el enorme territorio ocupado historicamente por los mataco y, en particlar, en su borde nordeste. (Braunstein 1996: 23)
10 Tovar (1951: 401):
se ha ido mezclando con la de lenguas vecinas, porque sabido es cómo estas tribus se absorban unas a otras, de la manera más clara y perceptible mediante el robo de las mujeres y aniquilación de los hombres vencidos; en esas mezclas y absorciones pasan de unas lenguas a otras no sólo palabras, sino formas, lo que justifica la afirmación que en un momento feliz hizo Lafone, al hablar de las 'tendencias camaleónicas' de estas lenguas chaqueñas [Lafone 1896: 138].
11 De Pikirenda hasta otras (?) leguas más o menos, por adelante hasta el Paraguay toman el nombre *Chulupies*: y toda la ribera derecha del Pilcomayo desde nuestra 1a Misión de

Noctenes hasta el Paraguay, es la misma tribu, con palabras, y costumbres algo diferentes; pero en la sustancia, es la misma lengua, y entre sí se entienden perfectamente hablando cada uno su jerigonza.

12 "la situación 'anormal' en cuanto al número de fonemas fricativos dorsales del Maká […] se explicaría, en parte, como resultado del presunto contacto del Maká con otras lenguas" (Viegas Barros 2002: 140).

13 Several languages also have a voiced bilabial fricative ([β]), at least phonetically, though the focus here is on the voiceless counterpart. The voiced bilabial fricative is typically associated closely with /w/, often as an allophone.

14 "Las lenguas precedentes, del grupo mataco-mataguayo […] presentan un juego propio de prefijos posesivos, que a juzgar por los hechos en mataco parece desarrollado en contacto con las lenguas del grupo guaycurú" Tovar (1951: 377–378).

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Index

Notes and clarifications

Typically, each South American Indian languages can have multiple names with multiple spellings, while, on the other hand, each name is often applied to multiple languages. Therfore, it is very important that these alternates and different spellings and cross-referencedd names be listed in the index to aid readers to find these, though unfortunately this makes for a very long, complelx index.

Generally, *see* here means the name is an alternate of the better-known name or names (the one(s) after *see* … In some cases, multiple names come after *see* …; this means that the name on the left of *see* … is an alternate of each of the names on the right, as in, for example, Arekuna, *see* Arecuna, Pemon, Taulipang where each of Arecuna, Pemon, and Taulipang is a different spelling or a different language which happens to have the same name and where these other names are primary for some authors in the book.

However, (*see also* …) means that the name(s) after *see also* are equally valid, well-known better names for the language in question.

When the name has two (or more) variant spellings which are reasonably similar, both spellings are given together in the same entry, for example, Achuar-Shiwiar, Achuar-Shiwiari, or Apurinã, Apurina, Apuriná. When the spellings are sufficiently different that a reader might need to look in different locations to attempt the find the names (for example, if they would not show up next to each other if ordered alphabetically), then the alternates are given in each of their respective alphabetically ordered locations, for example: Culina, Kulina but then later also Kulina, Culina.

It is important to understand that what may seem to be duplication, but is not. Some names are used for more than one language, and some authors use one of the alternate name as dominant while other authors use a different name as the main one to refer to the language in question. Therefore there are entries such as:

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Here, the first, Amuesha (alone) means there is a language by this name referred to by authors found on these pages. The second, Amuesha, *see* Yaneshá, Yanesha', means that other authors employ Yaneshá or Yanesha' as the primary term for referring to this same language or to a different language which accidentally happens also to be called Amuesha as an alternate name, requiring the second *see* entry.

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