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# The wonders of the Gran Chaco: Setting the scene

This dossier of *Revista Indiana* consists of three articles, each focusing on languages of the region of Gran Chaco in Bolivia, Paraguay and Argentina. In my brief introduction, I address issues raised in the contributions to the volume, within the general context of language contact, language typology and language analysis in the South American domain.

To many people, South America, and especially Lowland Amazonia, is known as an exotic land of impenetrable rainforest, colourful wildlife and a hot-spot of biological diversity. Adventurers of the colonial times looked upon it as the land of El Dorado, a treasure trove of gold and gemstones. This is also the place of amazing linguistic diversity, rivalled only by the Island of New Guinea. Over 400 languages are grouped into over twenty families, in addition to a fair number of isolates. (Various macro-groupings or 'stocks' have been suggested, by Greenberg and others; these are almost without exception illusory and otiose: see, for instance, Aikhenvald in press: Chapter 1, Dixon & Aikhenvald 1999, Adelaar 2004: 1-45). South American languages display highly unusual grammatical and lexical features which make them crucial for linguistic typology.

Most archaeologists agree that the Americas were first populated about 12,000 years ago (mostly likely in successive waves of migration). Waves of peoples probably moved across from Asia, over what would have then been a land bridge at the Bering Strait.[1] All the Americas are highly linguistically diverse. This makes us think that the first prehistoric migrations would have been made by many separate groups speaking genetically unrelated languages. However, numerous migrations and movements of population groups resulted in speakers of various languages coming in contact with each other. Consequently, many South American languages – which cannot be demonstrated to be related genetically – display similar features, in their phonetics, phonology, and in grammatical structure.

Just south of the Amazonian Basin lies the region of the Gran Chaco. There is no doubt that this is a cultural area. Its traditional inhabitants share practices of

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1 There has been a number of suggestions of an earlier date (ranging from 164,000 to 20,0000), but most have been short-lived: see Meltzer (2009), and a reappraisal by Fagan (2004).

subsistence, social organization, rituals, music and cosmology. This is also a locus of substantial linguistic diversity. Eighteen languages spoken in the Gran Chaco region belong to six genetically distinct groups:

- Guaycuruan, including Toba, Pilagá and Mocoví;
- Tupí-Guaraní, including Ava Guaraní-Chané and Tapiete;
- Mataco-Mataguayo, including Wichí, Nivaklé, Chorote and Maká;
- Lule-Vilela, consisting of Vilela
- Enhlet-enenhlet, consisting of Northern Enxet, Southern Enxet, Angaité, Sanapaná, Guaná and Toba-Mascoy (or Enenhlet), and
- Zamucoan, consisting of Ayoreo and Chamacoco (or Ishir) (Messineo, this volume, provides an overview of the languages of the Gran Chaco region).

At least some of these languages share phonological features; for instance, many have voiceless and ejective obstruents, and postvelar sounds. This area – especially the Guaycuruan peoples – suffered immensely as a result of the White invasion, and traces of the erstwhile contact between speakers are hard to recover. Why do these genetically unrelated languages of the Gran Chaco region have features in common? This is the question posed by Cristina Messineo, in her seminal contribution to this volume.[2]

Suppose a number of languages are spoken in a geographically continuous area, with groups interacting with each other and having to learn each other's languages. Then linguistic traits will spread, or diffuse, from language to language, until each applies across the area. Borrowings and structural similarities would extend over all or most of the languages in a geographical region. We then get large-scale linguistic diffusion. Languages may remain different in many of their forms, but their structures will converge towards a similar prototype. A linguistic area (or "Sprachbund") is formed.

A LINGUISTIC AREA is defined as a geographically delimited region including languages from at least two language families, or different subgroups of the same family. These would share significant features through speakers' contact and patterns of multilingualism. Most of features are not found in languages from these families or subgroups spoken outside the area. This is how one can prove that similarities between languages are due to contact, and not any other reason – including possible genetic relationship, or chance (see Emeneau 1956 for a classic definition of a linguistic area, and Aikhenvald 2006 for further references and a summary).

Ideally, in order to identify areally diffused features, we need access to languages from the same family spoken within a proposed area, and outside it (this is what we do have for the Vaupés River Basin in north-west Amazonia, and for other

2 See Comrie et al. (forthcoming), Nonato & Sandalo (2007) and also Rodrigues (1983), for further indications of contact-induced convergence of languages in the area.

well established areas, such as the Balkans: see Aikhenvald 2002; 2006). Some of the languages of the Gran Chaco region belong to the families which extend beyond the Gran Chaco in Bolivia, Paraguay and Argentina. The Tupí-Guaraní branch of Tupí family is spoken across the whole continent. It is the largest branch of family in terms of number of languages. Tupí-Guaraní languages are spoken throughout Lowland Amazonia and beyond it (Jensen 1999). It would be a fascinating task to compare the Tupí-Guaraní languages of the Gran Chaco area with their relatives in Amazonia, in an attempt to disclose the features which may be due to contact with other languages of the Chacos. Kadiwéu, from the Guaycuruan family, is spoken outside the Gran Chaco proper (and may have undergone some influence from Guató, a Macro-Jê language: Rodrigues 1983). A comparison of Kadiwéu with the Guaycuruan languages in the Gran Chaco region may also reveal interesting patterns of potential contact-induced change. This is, however, a task for the future.

The most reliable way of discerning patterns of contact-induced change is from bottom up: by investigating one-to-one language contact and working out which features are shared. This is what Cristina **Messineo** does in her masterly contribution to this volume, "A typological approach to the indigenous languages of the Gran Chaco: features shared by Toba (Guaycuruan family) and Maká (Mataco-Mataguayo family)" ("Aproximación tipológica a las lenguas indígenas del Gran Chaco. Rasgos compartidos entre toba (familia guaycurú) y maká (familia mataco-mataguayo)").

The paper starts with a general picture of the Gran Chaco region, and the patterns of shared means of subsistence and language interaction. The major part of the paper concentrates on investigating one particular instance of contact between two genetically unrelated languages, Toba, from the Guaycuruan family, and Maká, a member of the Mataco-Mataguayo family. The two languages are in contact. Note that there are, or have been, other instances of language contact between speakers of Guaycuruan languages, such as between the Pilagá, and the speakers of Maká-Mataguayo. The exact age of the contact is hard to ascertain. The number of structural properties shared between languages is rather impressive. And most of them are typologically unusual, if not altogether unique. That is, they can hardly be attributed to pure chance and coincidence, or typological universals.

Messineo focuses on several grammatical features shared by Toba and Maká which are indicative of intensive grammatical diffusion. She first turns to clausal constituent order, that is, the order of subject (transitive and intransitive), verb and object. It is well known that constituent order is very often diffused from one language to another, in the situation of language contact (most likely, due to its importance in communication and in determining 'who did what to whom': see Aikhenvald 2006: 16-17, 26-7 for some details).

Toba and Maká show amazing isomorphism in their constituent order: for instance, first and second person emphatic pronouns (known as Speech Act Participants, or SAP) precede the verb in the function of Object (O) and of Intransitive subject (S). The transitive subject (A) always follows the verb. This is an interesting example of ergative alignment (A marked differently from S and from O) marked via constituent order. Similar, but far from identical, tendencies to distinguish A from S and O by constituent order on have been described for a few Amazonian languages, including Nadëb, from the Makú family, and Waurá and Warekena, from the Arawak family, and also for Päri, a Nilotic language (Dixon 1994; Aikhenvald in press: Chapter 7). What makes the situation in Toba and Maká especially unusual is that the 'ergative-absolutive' constituent order is restricted to Speech Act Participants marked through emphatic pronouns. This is in addition to active-stative characteristics in Toba. We can perhaps hypothesise that language contact has contributed to grammatical complexity in both languages. However, it is hard to decide which way linguistic diffusion may have proceeded: whether the pattern in Toba was developed under the Maká influence, or the other way round.

Possessive constructions in Toba and Maká are structurally similar. Formally, they are not, since the languages are not genetically related. Inalienable possession in Toba is expressed through prefixes. A similar set of prefixes is used on verbs, to mark Objects (O) of transitive verbs and S of stative intransitive verbs. This pattern is found in a number of Amazonian languages, including Carib, Jê, Tupí-Guaraní, many Tupí, and the isolates Urarina, and Kwaza (Aikhenvald in press: Chapter 5, Table 5.5), and a few other language families, including Siouan in North America (Mithun 1999). The situation in Maká is similar, but not identical. Once again, structural similarity between two languages is tantalising, and indicative of contact-induced change.

In many languages of the world, some nouns always have to appear with a possessor. These typically include body parts, parts of whole, kinship terms and a few other important terms (such as "house" in Arawak languages). This is the essence of inalienable possession. Other nouns do not have to always occur with the possessor; these are called "alienably possessed". In a number of the world's languages, alienably possessed nouns cannot take possessive markers directly. They can only be possessed if accompanied by a generic noun denoting what they are in terms of their type. In order to say "your banana" in Apalaí, a North Carib language, one has to say "your-FRUIT/VEGETABLE banana" (Aikhenvald 2000: 126-132). The markers that appear in possessive contexts categorize the possessee in terms of its generic class. They have come to be called possessive (or genitive) classifiers.

Possessive classifiers – a subclass of nouns with generic semantics – are used with alienably possessed items in a number of Amazonian languages, including

Nadëb (a Makú language), Carib, many Tupí-Guaraní and northern Jê languages, and possibly also Kipeá-Karirí, a now extinct Macro-Jê language. North Carib languages typically have a large set of possessive classifiers (Panare has over a dozen: see Mattéi-Müller 1974). The exact number of classifiers varies. For instance, Northern Jê languages Timbira (Canela, Krahô), Kayapó and Panará have one generic classifier for all alienably possessed items; Bororo (Macro-Jê) has one classifier for pets and another for all other alienably possessed nouns. Tupí-Guaraní languages typically have one classifier for pets, and another for game. This feature is shared by Yuman languages of North America: several Yuman languages, including Maricopa, Hualapai and Yavapai, have one classifier for pets and domestic animals and another one for general possession (see references in Aikhenvald 2000: 127; further details in Aikhenvald forthcoming).

As pointed out by Fabre (2007), possessive classifiers can be considered a shared feature of the languages of the Gran Chaco region. A system of three possessive classifiers (one for "pet, vehicle", one for "prey, victim, captured/gathered object", and one for property in general) in Ayoreo, a Zamucoan language spoken in the Gran Chaco region, was described by Bertinetto (2009) and Ciucci (2010a). (Interestingly, Chamacoco, the other extant Zamucoan language, has no possessive classifiers: Ciucci 2010b). It thus comes as no surprise that the principle of having classifiers in possessive constructions is shared by Toba and by Maká, two languages in contact. Toba has one classifier for "pets" (examples (37)-(39) of Messineo, this volume). Maká has a larger set of three classifiers, covering "domestic animals", "domesticated plants" and "mounted animals". It would be interesting to try and determine the direction of diffusion. I would suspect that a smaller system of classifiers in Toba system may have been influenced by Maká rather than the other way round. This is, however, a matter for future research.

It is well known (see, for instance, Aikhenvald 2000: 382-388) that noun classification systems often diffuse in the situations of language contact. In agreement with this, Palikur, a North Arawak language, has developed a system of possessive classifiers under the influence of North Carib languages. The examples from Gran Chaco confirm the importance of classifiers in areal diffusion.

Classifiers used just with deictics appear to be the most rare of all classifier types in the world's languages. So far, they have been described only for Mandan (Siouan) languages in North America and for Guaycuruan languages in the Gran Chaco region (Aikhenvald 2000: 177-182; Céria & Sandalo 1995). Deictic classifiers can be reconstructed to the proto-language of the family, since they are attested in all the extant languages, including Kadiwéu (a Guaycuruan language spoken outside the Gran Chaco region). Maká does not have deictic classifiers in the same way as do Guaycuruan languages (this language distinguishes masculine and feminine genders). However, the semantic features of distance and visibility in demonstratives are shared by Maká with Guaycuruan. Given that these can be recon-

structed for Proto-Guaycuruan, one may hypothesise that here Toba has been the source of influence on Maká. An aside is in order: in footnote 8 of his contribution to this volume, Carol notes that Wichi (also known as Mataco), from the Mataco-Mataguayo family, appears to have positional distinctions (vertical, horizontal etc.) in its demonstrative system. This is reminiscent of Guaycuruan languages. Whether or not this is indeed an instance of areal diffusion from Guaycuruan into Wichi is a question for further investigation.

In many languages across Amazonia, special morphemes attach to nouns to characterise their meanings (Aikhenvald 2000: 91). Noun classifiers referring to various types of plants, fruit, and vegetables, are remarkably similar in their functions and meanings, in Toba and in Pilagá. But the direction of diffusion is hard to ascertain.

A further area of structural convergence between Toba and Maká is in marking negation. Negation of declarative clauses is expressed with a verbal prefix in both languages, creating interesting structural parallelism. Negative imperatives (or prohibitives) have a special negator placed before the verb (this is a widespread technique among the world's languages: see a survey in Aikhenvald 2010). Negation of existence is another domain of structural similarity between the two languages. In Toba, only one deictic classifier (indicating "absence") can be used in negative existential constructions. In contrast, the positive existential can occur with any classifier. The negator of existence in Maká also contains an 'absential' marker. There appears to be a tendency not to use deictics in negative existential constructions. Negative existential constructions in Maká appear to be calqued from Toba.

The selection of grammatical features shared by Toba and by Maká is highly indicative of language contact. Similarly to many other areas of the world, contact-induced change affects patterns and not necessarily forms. In other words, language contact is reflected in structural similarities, and can only be detected through painstaking synchronic and diachronic analysis. Toba and Maká, two genetically unrelated languages in contact, provide a highly illustrative example of this, thanks to Cristina Messineo's exemplary contribution to this volume. This type of contribution is essential for our understanding of the Gran Chaco region as a linguistic area.

Only in-depth studies, based on first hand data, will enable us to formulate sensible inductive generalizations concerning any language. The languages of the Gran Chaco region have been so far somewhat neglected by general typologists. Many linguists are simply not aware of their complexity, and of their characteristics. This makes Javier J. **Carol**'s article particularly valuable ("Demonstrative modifiers in Chorote (Mataguayo). Interrelationships with modality, temporality and evidentiality" ("Determinantes demonstrativos en chorote (mataguayo). Interrelación con la modalidad, la temporalidad y la evidencialidad")).

Carol focuses on an in-depth analysis of demonstratives in Chorote, a Mataco-Mataguayo language. Unlike Guaycuruan languages, Chorote has no deictic classifiers and no positional distinctions in its demonstrative system.

Perceptual meanings may be encoded in the system of demonstratives (Aikhenvald 2004: 130-131; Dixon 2010: 223-261, on typical semantic distinctions in demonstratives across the world's languages). Reference to spatial distance can be combined with visibility or lack of it. This is also the case in Chorote. A highly unusual member of the demonstrative system is the 'absential' demonstrative indicating that the referent is away, or dead or destroyed. There is a demonstrative referring to something which one can see. Another demonstrative marks an object that cannot be seen now, but was seen before. A demonstrative indicating invisible or unknown referents is the one often used in myths.

That is, demonstratives effectively reflect information source – whether the referent is known to the speaker through visual information, or through another avenue. Similar instances of using a demonstrative as an 'evidentiality strategy' are found in other languages. Santali, a Munda language from India (Neukom 2001: 42-44) has a special series of demonstrative pronouns referring to what is seen, or to what is heard. The semantic extensions of these demonstratives are parallel to those in evidentiality systems: the visual demonstrative can refer to 'what is evident', while the auditive one may also refer to smell, taste and feeling (Neukom 2001: 42). Dyirbal, an Australian language (Dixon 1972: 44-57; 2010: 244), has a three-term system of noun markers: *bala-* "referent is visible and THERE (that is, not near speaker)"; *yala-* "referent is visible and HERE (near speaker)"; and *ngala-* "referent is not visible". Something referred to with *ngala-* may be not visible but audible, or neither visible nor audible, or something remembered from the past.

So far, demonstratives as evidentiality strategies have never been described for any South American language: Chorote is the first example.

The use of demonstratives in Chorote interacts with modality, tense and aspect of the clause. Chorote does not have a system of nominal tense (unlike many Carib, Tupí-Guaraní and Arawak languages in South America). But the 'absential' demonstrative with a noun has a similar function.

Chorote appears to have a rather unusual system of two evidentials: conjectural *-t'i* and reportative *-jen*. This type of system has not so far been documented (Aikhenvald 2004, for an overview). However, visual information source can be expressed through demonstratives, and the interaction between demonstratives and evidentials within a clause add further complexities to a seemingly simple evidential system. Carol's incisive discussion of the ways in which tense, aspect, modality and evidentiality interact with adnominal demonstratives also indicate that these are primarily categories of a clause rather than primarily verbal categories.

Chorote has a further array of exciting typological features. There is a two-term gender system, with different distinctions in singular and in plural. Singular nouns have a masculine and feminine distinction, while plural nouns distinguish human and non-human nouns. This cross-cutting 'super-classing' is not uncommon world-wide, but rather atypical in the languages of South America (see further examples in Aikhenvald 2000: 48-50). Similarly to most South American languages, gender marking is mostly covert (that is, realised on agreeing constituents rather than the noun itself). This is a feature Chorote shares with genetically unrelated Toba (Cúneo 2011).

Among other typologically interesting points concerning Chorote demonstrative markers is a connection between the marker *-k* for newly introduced and topicalised referents, and a locative formative *-k*. A typological link between marking of location and topicality has been suggested by Radetzky (2002). Chorote confirms this connection. The same set of forms can be used as indefinites, and as interrogatives (a phenomenon also known under the cover term of "ignorative"). A further striking feature of Chorote is what Carol calls "applicatives/adpositions". These are morphemes which introduce an argument or an oblique (as an applicative would do), and can occur with a noun, or on a verb, or on their own depending on their segmental length.

Carol's contribution opens up a whole new world of a typologically unusual language. Studies like this one are a back-bone of present-day linguistics.

The contribution by Hebe **González**, "Ethnobotanical lexicon of Tapiete (Tupí-Guaraní), a language of the Argentianian Chacos" (Léxico etnobotánico tapiete (tupí-guaraní), lengua del Chaco argentino), has a different focus. In order to understand the functions and the organization of every language, we need to have an in-depth analysis of its every aspect, including its lexicon. In this contribution, the author, who has already completed a reference grammar of the language (González 2005a, focuses on the linguistic structure of botanical terms in Tapiete. The paper starts with a detailed description of the Tapiete, their linguistic situation, ecosystem and environment. It then discusses, in some detail, the morphological processes involved in formation of ethnobotanical terms. These include augmentatives and diminutives, compounding, and reduplication. Numerous terms are composed of possessive noun phrases, many of them containing terms for body parts. Descriptive expressions may also contain attributive verbs, and nominalizations.

An increasing influence of Spanish has resulted in an influx of calques, and of loan words, in every domain, including that of plant names. Many of them are phonologically nativised, thus providing interesting examples of preferred syllable structures in Tapiete itself.

This contribution is impressive in its detailed analysis. It will serve as an excellent basis for a broader study of categorization and conceptualization of plant among the Tapiete (in the spirit of Valenzuela 2000), and eventually across the region of the Gran Chaco.

In summary: contributions in this volume reflect the three facets of contemporary scholarship whose ultimate aim is to provide a deeper understanding of the origin and the dynamics of languages of the Gran Chaco region:

- the impact of language contact and the interaction of areal diffusion and genetic inheritance (Messineo),
- typological complexities of one language, and its grammatical and pragmatic organization (Carol) and
- an in-depth analysis of one culturally important lexical field (González).

The papers offer us a glimpse into the linguistic wonders of the Gran Chaco region, an area which still remains a puzzle for many in our profession. There is a lot to be done in the area of the languages and cultures of the Gran Chaco region. The contributions to this issue are a fruitful start.

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