

LINGUISTICS, INDIGENOUS LANGUAGES, AND ANALYSIS FROM A FORMAL PERSPECTIVE

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By taking into account both the study of indigenous languages and the discipline of linguistics at large, this issue of *Revista Linguística* presents to the reader a series of dialogues internal to the field itself, as well as those that take place at the interface between linguistics and other sciences. These will certainly benefit ongoing investigations under a formalist framework, while, at the same time, suggesting new possibilities for re-interpretations and fresh assessments of traditional themes under a formalist approach. We present, in what follows, the proposals and developments internal to each of the papers included in this edited volume.

The paper of Calindro, Camargos and Apontes offers a generative account of relative, completive, interrogative, and negative constructions in Oro Waram and Oro Waram Xijein, two varieties of the Wari' or Pakaa Nova language, a member of the Txapakura family (Rondônia state, Brazil). A comparative description, and, ultimately, a unified theoretical treatment of this set of constructions is justified by a series of shared grammatical properties identified by the authors. As a necessary foundation to the argumentation, the paper builds on a set of generalizations taken from the linguistic typology literature, as well as an outline of the properties of verbal and nominal predicates in the language under study. The core fact about the CP domain and the grammatical properties codified within it is the sensitivity of the CP head to properties of elements in specifier position, a structural relation which is revealed by a pattern of gender agreement. A set of hypotheses on the language's agreement process are advanced, with the evidence amassed suggesting that only person and number features are inherited from C, while gender features would remain within the domain of the CP. The hypotheses thus raised pave the way for further studies on the matter, as well as for alternative theoretical treatments of the same phenomena.

Souza's paper follows recent trends in syntactic research, in particular in seeing functional elements as the triggers for operations and, consequently, for surface syntactic variation. The author focuses on the evidence for the role played by certain functional heads in accounting for syntactic

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variation among members of the Panoan language family - a group of languages spoken in Brazil, Peru and Bolivia. The study focuses on the Kayapucá variety of the Jaminawa language (Acre, Brazil), in comparison to another variety of the same language (Jaminawa as spoken in Peru), and to two other, more distantly related languages: Marubo and Matsés, both spoken in the state of Amazonas, Brazil. The functional heads addressed in the paper are Mood, Aspect and Tense, and their respective phrases, ModP (Mood Phrase), AspP (Aspect Phrase) and TP (Temporal Phrase). As a necessary background to the discussion, Souza offers a review of the arguments advanced in the syntactic literature that justified the splitting of the Inflectional Phrase (IP) into separate functional projections, as well as those supporting, more specifically, the recognition of a separate AspP, and the dissociation between AspP and TP. In relation to the Panoan languages under consideration, previous studies (SOARES, M. 2006; SOARES, R. 2011) have advanced arguments for the recognition of a Mood functional head and its associated Mood Phrase, based on the existence of complementary distribution between marks for tense-aspect and negation (in the case of Marubo), as well as on the eventual suppression of tense-aspect marks in interaction with negation marks (in Matsés). These works describe the Realis/Irrealis Mood system as a factor in the realization of the categories of Tense, Aspect and Negation in Marubo and Matsés (SOARES, M. 2006), and this proposal, once applied to the Peruvian Jaminawa variety, is further refined: (i) ModP, with a [\pm realis] feature, would result from the projection of the Mood head with a negation feature; (ii) AspP, in turn, would be the projection of the Aspect head, a sister branch to vP (SOARES, R. 2011). This proposal is modified in the case of the Kayapucá variety of Jaminawa, with the idea of a Mood Phrase projection being nevertheless retained. Souza addresses the effects of the occurrence of a set of tense-aspect morphemes, along with the negation morpheme, seeking, on the one hand, evidence for an independent Negation Phrase projection and, on the other hand, motivations for the representation of the ModP, AspP and TP phrases, with their respective features, in the Kayapucá variety. With the establishment of these parametric differences between two varieties of the Jaminawa language, Souza's study offers a contribution to the study of syntactic variation within the Panoan language family, and, more broadly, to a syntactic typology of the functional lexicon

Vieira tackles the issue of quantification from the perspective of the theory of grammar, focusing on three members of a language family, Tupi-Guarani, for which the subject of quantification remains virtually unexplored. She resumes her past work on quantification in Trocará Asurini (see Vieira, 1995), now offering a comparative look at adverbial quantification including data from two other related languages: Tupinambá and Mbya Guarani. The author adopts, from Partee et alii (1987), the distinction between D(eterminer) and A(dverbial) quantification, while relying on the framework of Distributed Morphology for its architecture and its account of categorial change related to word classes and word-formation processes. The paper offers an overview of the codification strategies for quantificational notions in natural languages, presents the results of Vieira's investigations on the structure of Tupi-Guarani languages, and describes in greater detail the behavior of certain kinds

of quantifiers (and their scope properties) in the languages under consideration. Several broader, theoretical questions are addressed as well in the contribution, including possible correlations between the absence of D-quantification and certain parametric properties of languages, the categorial indetermination of roots, and the existence of associations between quantifier scope and the derivation of the argument structure of predicates. The paper constitutes, therefore, a sensible advance beyond the original proposals of Vieira (1995). Besides, amid the series of descriptive and theoretical aspects raised by the contribution, Vieira's paper invites further investigation on the cross-linguistic commonality of the exclusive use of A-quantification as a quantification strategy.

Le Corre discusses the nature of the human counting system. The article represents a thorough review of the development of counting, from nonverbal representations held by nonverbal infants to the numerical representations that are expressed in language when children start to count in the phase of language learning. The question of how this takes place has puzzled investigators for the past several decades. There is plenty of evidence, reviewed appropriately in this article, that humans represent number via two systems – the Parallel Individuation (PI) system and the Analogue Magnitude (AM) system (which Le Corre calls the approximate number system). While the parallel individuation system represents number via a mechanism of individual/object tracking, the analogue magnitude system uses an energy-registering mechanism in the nervous system subject to scalar variability, that is, the standard deviation of numerical estimates increases in direct proportion to the number being estimated. As one can see, neither system offers the potential to explain the learning of whole numbers that are expressed in language. The question is therefore – how do we learn the meanings of number words given that the nonverbal systems that explain numerical processing do not embody a mechanism that allows for meanings to be assigned? The proposal put forward by Le Corre is that there is continuity from the nonverbal understanding of number to the counting system of whole numbers that allows for the expression in language. Children may be making use of their mental tallying in one-one correspondence, as we know they do prior to knowing the verbal counting, to generalise to verbal counting, that is, to express in language the number word meanings. So, for example, suppose the child is mapping in one-one correspondence a collection of three objects. For each object, there will be a mental tag or tally which labels each object counted. The child then notices that the last number word in the verbal count also represents the numerosity of the mental tally that determines the number of the collection. Once this happens, the child is able to use this general rule to learn that the last number word corresponds to a tally of the collection. Le Corre discusses the literature in light of this proposal to successfully provide support for it. The article presents an interesting proposal, which culminates with a conjecture: perhaps the archaeological evidence showing counting as tallying throughout human cultural history is a clue to how relevant tallying is to humans.

The phonology paper of Carvalho focuses on synchronic and historical analyses of both distributional and dynamic aspects related to the phonotactics of Tupi-Guarani languages, one of the most important linguistic groups of South America. In line with recent developments in phonological theory, the paper takes a detailed look at coronal codas, in particular the coronal approximant [j] in

word-final position, which is treated either as part of a diphthong or as a syllable-closing consonantal element, in comparative statements on Tupi-Guarani phonology as well as in language-specific descriptions. The paper readdresses a set of changes usually described in Tupi-Guarani linguistics as involving ‘final consonant loss’ and provides a unified treatment of vocoid sequences in these languages based on phonotactic generalizations. In the end, a more coherent view of these phenomena, from a synchronic and a diachronic perspective, follows from Carvalho’s effort to distinguish between contoid and non-contoid consonantal segments. The path to these conclusions reveals, on the part of the author, great knowledge about the phonology and grammar of the languages of this group, as well as a reliance on, and an updating of, past work on the Tupi-Guarani language family.

The following article is the first publication, in Portuguese, of Leben and Ahoua’s paper on the phonological correlates of emphasis in the Kwa languages of Ivory Coast. Originally published in 2006, in English, this study remains a mandatory and sought-after reference for those working on tone languages, emphasis, the relationship between segmental and tonal processes, negation and final particles, ideophones, deverbal nominalization and types of emphasis marking, and register elevation, besides other equally fundamental themes such as that of *downdrift* and that of *upsweep*. Witnesses of the relevance of this paper, and of the larger tradition of studies within which it finds a place, are evident not only in the literature dedicated specifically to Kwa languages³ (Niger-Congo family), but also to languages of other Niger-Congo branches,⁴ and in discussions of genetically unrelated languages, often spoken in geographically distant places, as well as in comparative studies focusing on African and non-African languages.⁵ The long track of citations to this study, as well as the interest displayed by the research community on its contents, is fully justified. In this paper, Leben and Ahoua avoid using the narrower term *focus*, opting instead for the term *emphasis*, with broader, yet open, semantic implications. This choice, on the one hand, brings under their attention a semantically heterogeneous gamut of constructions; on the other hand, however, it clearly shows a coherent set of phonological processes involved in the expression of emphasis. Part of these of phonological processes are discussed in the paper, and while their presentation is brought to the foreground, a theoretical treatment of these devices is left as a task for future studies.

³ See, for instance: Kügler & Genzel, 2011 (KÜGLER, Frank; GENZEL, Susanne. On the prosodic expression of pragmatic prominence: the case of pitch register lowering in Akan. *Language and Speech*, v. 55, n. 3, pp. 331-59, 2011.), Kügler, 2015 (KÜGLER, Frank. Tone and intonation in Akan. In: DOWNING, Laura J.; RIALLAND, Annie. *Intonation in African Tone languages*. Berlin, Boston: De Gruyter, 2015.).

⁴ For example: DOWNING, Laura J. & POMPINO-MARSCHALL, Bernd; The focus prosody of Chichewa and the Stress-Focus constraint: a response to Samek-Lodovici (2005). *Natural Language & Linguistic Theory*, v. 31, pp. 647-81, 2013.

⁵ In this category we find, for instance: Güldemann & Zimmermann, 2015 (GÜLDEMANN, Tom; ZERBINE, Sabine; ZIMMERMANN, Malte. Variation in information structure with special reference to Africa. *Annual Review of Linguistics*, n. 1, pp. 155-78, 2015.); and Hyman & Leben, 2020 – a work based on an encompassing investigation of tonal systems, from a geographically diversified sample, and which contributes with the discussion of a series of core themes in phonological theory, such as tonal underspecification and tonal markedness. (cf. HYMAN, Larry; LEBEN, William. Word prosody II: Tone systems. In: GUSSENHOVEN, Carlos; CHEN, Ajou. *The Oxford handbook of language prosody*. Oxford: Oxford University Press, 2020.).

The work of Freitas and Cordovil focuses on the topic of semantic and morphosyntactic complexity within a domain which is seldom addressed in studies on indigenous languages: meronymy, or the semantic links between expressions which stand in a part-whole relationship to one another. The authors rely on first-hand data, as well as on the existing descriptive literature, to offer a treatment of meronymic relations in Apurinã, an endangered language of the Arawakan family. Of particular relevance in the literature review presented by the authors is Harriet Klein's study on meronymic/part-whole relations in the indigenous languages of lowland South America (KLEIN, 2000 - the sole descriptive survey to date on the phenomenon of meronymy over a representative sample of the languages of the continent). Freitas and Cordovil discuss several important concepts related to the notions of meronymy, possession/ownership and (in)alienability, including the traits defining the notion of meronymy and its semantic subtypes. As to the relation between meronymy and possession/ownership, the authors stress the importance of the distinction between alienable and inalienable relations for an understanding not only of the notion of possession/ownership, but of the concept of meronymy as well. In the part of the study dedicated to Apurinã, the authors offer a thorough description in terms of semantic subtypes, together with a taxonomy of meronyms based on their morphological marking. This detailed investigation of Apurinã uncovers, on the one hand, semantic and morphosyntactic complexity in the meronymic relations, while showing, on the other hand, that the language displays a preference for a certain set of strategies in the expression of meronymy. In an enticing way, the study opens up a research path for what constitutes, in the end, a question of broader cognitive significance.

The paper of Abreu and Albuquerque fits a research tradition which, in Brazil, belongs to the field of Indigenous Sociolinguistics, an area of investigation initiated by Charlotte Emmerich's study of Xinguano Portuguese (EMMERICH, 1984),⁶ and which has, in Silvia Bigonjal Braggio (BRAGGIO, 1986),⁷ of the Federal University of Goiás, a powerhouse for the formation of young researchers and the promotion of innovative investigations, besides counting with a long history of activities in indigenous lands. The research featured in the paper is characterized as ethnographic by its authors, methodologically qualitative and quantitative, and relied on participant observation, the examination of fieldnotes, and the application of sociolinguistic questionnaires. On the latter, Abreu and Albuquerque start from the questionnaires of Muñoz (1991) and Braggio (1992), after adaptations effected by Albuquerque (1999) tailoring them for application to a specific indigenous group. The explicit focus lies on understanding the relations between the native language and Portuguese within the different domains of Krahô social life. The results of the sociolinguistic survey are presented and interpreted in agreement with the methods expounded, and in terms of the relative fluency of use of the two languages in the domains of speaking, writing, reading and conversational skills.

⁶ EMMERICH, Charlotte. *A Língua de Contato no Alto Xingu, sua origem forma e função*. Tese de Doutorado. Universidade Federal do Rio de Janeiro (UFRJ), Programa de Pós-graduação em Linguística, Rio de Janeiro, 1984.

⁷ BRAGGIO, Silvia L.B. *The Sociolinguistics of Literacy: a case-study of the Kaingang a Brazilian Indian Tribe*. The University of New México, UNM, Estados Unidos, 1986.

From an applied sociolinguistic perspective, the data presented by Abreu and Albuquerque furnish the basis for deciding which of the languages would be the optimal one for learning and teaching in the relevant Krahô community. Finally, by addressing the issues of intergenerational transmission, native language maintenance and traditional knowledge in a situation of linguistic and intercultural conflict, the paper inevitably brings up different forms of resistance.

In his paper on the practice of kinship terms among riverine populations in the Paraense Amazon, Alves addresses the local lexicon as a way to better understand the nature of kinship relations themselves. Alves' methods are ethnographic in nature, with an emphasis on participant observation in a fieldwork setting, and the resulting reflections upon the observed reality result from a dialogue between Linguistics and Structuralist Anthropology. The essence of the conception of kinship employed by the author resides in the notion of mutuality, and the bridge between the two disciplines of Linguistics and Anthropology - which are both wide and diverse disciplines from historical, theoretical, and epistemological perspectives - is crafted by the focus on language and on sense. In this way, reflections about certain sets of practices, symbols ('webs of significance'), ways of being, ways of doing, manifestations of the immaterial and socio-spatial organization, all feature in a center stage role in the paper. An overarching question underlies the paper and guides it from start to end: "In which ways does riverine language reveal and establish kinship relations in the region, in particular at the Igarapé Acaputeua?" The second part of the paper is devoted to the ethnographic analysis developed by the author after months of fieldwork among the riverine population of the Igarapé Acaputeua, in the municipality of Igarapé Miri, in the northeast of the state of Pará, Brazil. The pillars of the proposed analysis are introduced at this moment, including the semantic game on which belonging to the kindred depends, and the "periphery" of the kindred as the optimal strategy for the social and material reproduction among the Acaputeua riverine population, which is organized neither in clans nor in moieties. Grounding the understanding of kinship relations on the study of language practices is of fundamental importance in the paper, and this underscores the importance of language practices for those seeking to build an interface between Anthropology and Linguistics.

The issue is closed by the paper of Uller and Soares, a contribution to the investigation of the relations between cognition and language. The study advances an agenda focused on the study of numeracy skills in early age children, addressing the question of how these children acquire their native languages while making numeracy judgements. As a way to answer this question within the framework of the proposed research agenda, two broad processes for the expression of numeric information in languages are identified. The first relies on a given language's grammatical structure (the language's quantification system). The second process employed for the manifestation of numeric content is the direct realization of number with the use of linguistic numeric expressions. The first of these processes is termed 'grammatical number' in the paper, while the second is referred to as 'linguistic number'. Two studies have focused on the realization of numeric information in two Amazonian languages, in this case languages with a reduced lexicon of numeric words (GORDON, 2004; PICA; LEMER;

IZARD & DEHAENE, 2004 - on Mundurucu and Pirahã, respectively). The interpretations provided by these studies, based on their reported results are, however, limited in multiple aspects. First, the informal nature of the tests does not provide definitive evidence for the counting systems proposed in Pica et al. (2004). A second issue is that the linguistic and cognitive approach should be expanded, in order to include a more diverse set of numeracy skills in diverse cognitive/linguistic contexts. Third, neither of these studies is concerned with the conceptual development of these systems, that is, with the question of how children come to acquire a language-based system with small numbers, and a system for the estimation of large numbers. It is exactly this issue, missing from said studies, that constitutes the main concern of Uller and Soares. The paper underscores the relation cognition-language, based on the relationships between language and number - a particularly interesting topic for tackling the broader issue of the connections between thought and language. The expectation, within the purview of the proposed research agenda, is that interesting questions can be raised, and addressed, in the context of the languages spoken by native Amazonian peoples.

Other than offering specific analyses to individual problems - or the discussion of particular topics - the papers featuring in this issue, once brought under focus as a whole, allow for the recognition of certain underlying questions that feed into wider debates: the role of features, properties and categories in the search for unifying analyses of phenomena that appear inconsistent, heterogeneous or complex in the surface; preferences for certain strategies for linguistic expression, maintenance and transmission; a host of issues around the relations between orality and written expression; the nature of questions raised by ethnographic investigations which call for renewed consideration; and problems concerned with the interface between cognition and language. Many of these themes show an interlocking relationship to one another, connecting the papers gathered in the collection, and, hence, establishing links between linguistics, the study of indigenous languages, and formalist approaches.