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**Serge Sagna, *Cross-categorial classification: Nouns and verbs in Eegimaa* (Empirical Approaches to Language Typology 60), Berlin, Mouton de Gruyter, <https://doi.org/10.1515/9783110636321>**

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Nominal classification is a cover term broadly referring to the manifold constructions that human languages may use to organize their nominal lexicon into structured groupings and to the discourse functions that are typically associated with these categorization processes. The nominal classification systems of the languages of the Niger-Congo family are one of the most well-known and best studied systems among those attested in the languages of the world. Yet, this tradition of research tends to be biased towards an explicative model that has been constructed for a subgroup of languages within the larger Niger-Congo context, i.e., the Bantu languages. It is often argued that the traditional approach to the analysis of Niger-Congo noun class systems has two potential shortcomings: obscuring much of the diversity attested among other branches of the family beyond Bantu and being somewhat idiosyncratic with respect to the broader typological literature. The newly published book by Serge Sagna addresses both of these potential shortcomings and makes a significant contribution to this well-explored field of research. The volume sheds new light on the diversity of the nominal classification systems attested among Niger-Congo languages and proposes a new analytical model that is well suited for the purpose of typological comparison. In addition, the book investigates a typologically rare and not so widely known phenomenon, which is referred to as *cross-categorial classification*. This term is used to denote the process whereby nouns and verbs may be categorized in (semantically) structured groupings and the same set of marking strategies is used to express these categorizations. The focus of the book is the nominal and verbal classification system of Gújolaay Eegimaa (henceforth Eegimaa), a language spoken in southern Senegal and belonging to the Bak branch of the Atlantic family, a subgroup of the Niger-Congo family (Appendix A, p. 255).

The book is organized in eight chapters and two appendices, which I summarize in the following. The review ends with a general evaluation of the book.

Chapter 1 introduces the concept of overt verb classification and outlines its distribution in the languages of the world, as well as in the languages of the Niger-Congo family. Building upon earlier studies by McGregor (2002) and Schultze-Berndt & Sagna (2010), overt verb classification is defined as, “a formal classification of verbal elements as a reflection of a semantic categorization of the events and states they denote” (p. 3). Four criteria are introduced as a further delimitation of this comparative concept: 1) the existence of a closed class of classificatory elements that combine with an open class of verb-like lexical items; 2) the obligatoriness of the usage of these classificatory constructions, at least in certain contexts; 3) the fact that these classificatory elements may or may not have other functions in the languages where they occur, and 4) the existence of restrictions on the combinability between the different classificatory elements and the different verbal stems attested in the language. Based on these criteria and on data reported in previous literature, four types of overt verb classification systems are identified, which are named after the specific area of the world and/or the language family where they are most typically attested. The AUSTRALIAN AND SOUTH AMERICAN TYPE is attested in such languages as Nyulnyul and Moseetén. In these languages, overt verb classification is encoded through complex predicate constructions and relies on the existence of a closed class of generic or inflecting verbs that co-occur with an open class of uninflecting verbs and contribute to specify aspects of event construal, such as the direction of movement, aktionsart, valency and the degree of control by the subject/actor argument (p. 6). The EAST AND SOUTHEAST ASIAN TYPE is attested in languages such as Kam and Chinese, where, similar to the nominal domain, the use of verbal classificatory elements is related to the occurrence of numerals and quantifiers providing temporal or phasal boundaries to the event encoded by the verb (p. 7). The SLAVIC TYPE relates to a system of aspectual prefixes that verbs can take in their perfective forms, and which contribute to event unitization. Finally, in the NIGER-CONGO TYPE, to which Eegimaa belongs, overt verb classification is related to the use of noun

class prefixes to classify non-finite verb forms, such as infinitives. While the phenomenon does not seem to be attested in Bantu languages, it is more present in Atlantic languages and, especially so, in Eegimaa and some genealogically related and/or geographically close languages, such as Kujireray and Bāinouk Gubēeher. As detailed in the rest of the book, in these languages, a closed set of nominal prefixes is used with non-finite verb forms to encode such meanings as pluractionality and durativity.

Chapter 2 discusses word classes in Eegimaa, the distinction between verbs and nouns, and its relevance for the analysis of overt classification processes. The discussion is informed by state-of-the-art typological literature on the universality of word classes and the verbo-nominal continuum. It is argued that three word classes can be identified in Eegimaa for the encoding of referential and predicative expressions: mono-categorial nouns, mono-categorial verbs and poly-categorial (verbo-nominal) stems. Mono-categorial nominals (described in Section 2.2) can only function as arguments and chiefly undergo nominal morphosyntactic processes, such as gender (noun class) marking, evaluative morphology (diminutive and augmentative marking), possessive marking and various patterns of nominal derivation. Mono-categorial verbs (described in Section 2.3) encode states and events and chiefly take verbal morphology (TAM and argument marking, negation). They cannot be used as arguments without undergoing derivational processes and, in their non-finite forms, they tend to take only one type of noun class prefix, the *e-* prefix. Poly-categorial stems (discussed in Section 2.4) are flexible stems and word forms semantically associated with both entities and events. As such, they can occur both with nominal and verbal morphology and, syntactically, they function both as arguments and predicates. In their non-finite verbal forms, poly-categorial stems can be marked by several different noun class prefixes and even shift in class membership depending on semantic features pertaining to event construal.

Chapter 3 describes the noun class system of Eegimaa in the context of a broader review of the existing literature on Niger-Congo nominal classification systems. The approach introduced by the author is labeled the “gender-plus-number” approach and builds upon the distinction between nominal morphological classes and agreement classes. Nominal morphological classes are the prefixes that nouns take in their singular and plural forms or when undergoing certain word formation processes. Conversely, agreement classes are the singular and plural marking patterns that different types of word classes (such as different types of adnominal modifiers and/or pronouns and verbs) take when co-occurring with certain groupings of nouns that, as such, are said to belong to the same gender. In this approach, which meets the gold-standards of typological research on grammatical gender systems (Corbett 1991) and is also in line with recent developments in the study of Niger-Congo gender systems (Güldemann & Fiedler 2019), only agreement classes are considered when establishing the inventory of gender distinctions in a language. Using the gender-plus-number approach, 31 nominal morphological classes and 10 main agreement classes are identified for Eegimaa and described in Chapter 3. The chapter terminates with a description of the agreement properties of lexical hybrids, that is, nouns that control different agreement patterns on different types of agreement targets. Typically, these different agreement patterns are divided into two types: patterns of syntactic agreement, that is, in alignment with the lexical gender of nouns, and patterns of semantic agreement, that is, in alignment with referential properties of nouns. According to Sagna, Eegimaa features two main types of semantic agreement: human semantic agreement and locative semantic agreement. The former indexes that the noun referent is human, whereas the second signals that the noun denotes a location or a container.

Chapter 4 describes nominal and verbal properties of non-finite verb forms, as well as how these forms are overtly classified by using noun class prefixes. Broadly speaking, non-finite verb forms are devoid of morphosyntactic and semantic properties that are prototypically associated with finite verbs (e.g., following Nikolaeva’s (2012) work, argument marking, TAM marking, assertivity, etc.). Instead, these forms take noun class prefixes, which “reflects a semantically motivated cognitive categorization of events” (p. 105). In addition to the presence of noun class prefixes, another nominal morphological property of non-finite verb forms is that of combining with possessive suffixes. Syntactically, non-finite verb forms can function as arguments of a finite verb or as clausal complements in combination

with complement-taking predicates and other types of predicative expressions, such as phasal predicates that mark the inception, continuation and/or termination of an event, desiderative and modal predicates, verbs of cognition, perception and acts of speaking, negative predicates, evaluative predicates and manipulative predicates. In addition to exhibiting the above-mentioned nominal properties, non-finite verb forms also preserve chiefly verbal characteristics, such as the ability to take (nominal and pronominal) objects, and the possibility of being modified by adverbs. Non-finite verb forms can also participate as infinitives in a purposive clause, take valency-changing suffixes, undergo negation and be used in comparative constructions. The second part of the chapter describes the overt classification of non-finite verb forms. Based on the prefixes that these can take, 15 non-finite verbal classes are identified. Some of these classes count only a few members, some others, such as the prefix *e-*, are attested with hundreds of non-finite verb forms. The chapter continues by showing how the non-finite forms of derived verbs (such as causatives, reciprocals, middle verbs and denominal verbs) and borrowed verbs (e.g. from French or Wolof) are also classified in one of the several overt verbal classes, which confirms that this categorization process is fully productive in the language. One of the most striking characteristics of overt verbal classification in Eegimaa is that one and the same stem may be assigned to multiple classificatory prefixes. Prefix alternations can be ascribed to three types: (1) alternations that imply a word class distinction between a noun and a verb, (2) alternations that imply no change in word class, but rather a change in meaning (e.g. *e-mas* ‘spit’ and *ga-mas* ‘vomit’), and (3) alternations that imply no striking semantic change, but rather some kind of manipulation of the degree of transitivity of verb stems. The chapter ends with a typologically-informed discussion of the status of non-finite verb forms in Eegimaa, as either converbs, infinitives, or verbal nouns. The author concludes that, in fact, Eegimaa non-finite verb forms have properties that partially overlap with each of these types of constructions. As a consequence, identifying them with one or the other type is largely reductive.

Chapter 5 provides a detailed account of noun class semantics in Eegimaa. In a similar vein to Chapter 3, where the focus was on the shape of nominal morphological classes and agreement classes, the semantic underpinnings of the Eegimaa noun class system are discussed in light of the existing debate in the Niger-Congo literature, as well as by proposing and putting to the test new analytical tools. Niger-Congo scholars typically reject the idea that noun class assignment in these languages is semantically motivated (if not for the animate/human genders) (see, among others, Schadeberg 2001). This is usually argued against on the account that, for the majority of nouns belonging to the same gender, it is extremely hard, if not impossible, to find a common semantic denominator that would justify the attested patterns of assignment. Sagna reverts the perspective here and demonstrates that noun classes in Eegimaa do have semantic content, which can be studied by applying a Prototype Theory approach. This approach, which stems from categorization theory and cognitive psychology, posits that the mechanisms underlying noun classification are those related to prototypicality, family resemblances, conceptual metaphor and metonymy (see Contini-Morava 1997; Breedveld 1995 for earlier applications of this approach to other Niger-Congo languages). In this context, it is not the case that all nouns belonging to the same gender would share the same subset of semantic properties. Rather, different types of association principles, resting on the interplay between physical properties of the referents and culture-specific categorizations, contribute to build the conceptual network that is associated with different genders and morphological classes. This conceptual network is in turn reflected in productive patterns of gender assignment. Four lines of reasoning inform the argumentation that is laid out in the chapter: 1) shape and size are productive and crucial principles of semantic categorization of Eegimaa nouns, 2) gender and morphological class assignment of culturally salient entities is often motivated by culture-specific phenomena whose knowledge is essential in order to make sense of *prima facie* non-transparent assignment processes, 3) shape and cultural salience also play a role in the assignment patterns of loanwords and dummy noun stems, and 4) mismatches between noun class morphology and agreement patterns with lexical hybrids reflect multiple patterns of categorization at play. By using these criteria of analysis, Sagna

walks us through a path in which he clearly demonstrates that “individual genders and morphological classes are associated with semantic content” in Eegimaa (p. 191).

Chapter 6 focuses on the semantic underpinnings of overt verbal classification. After a general introduction into verbal semantics and event categorization, the author discusses the peculiarities of verb categorization in Eegimaa. Firstly, he shows that there is no one-to-one correspondence between the noun class prefixes that are used to classify non-finite verbs in Eegimaa and lexical aspect, viewed in terms of Vendler’s (1957) classification into states, activities, accomplishments, achievements and semelfactives. Instead, earlier work on overt verbal classification in Eegimaa (Schultze-Berndt & Sagna 2010) and two additional Atlantic languages, Bāinounk Gubēeher (Cobbinah 2013) and Kujireray (Watson 2015), suggests that a major function of overt verbal classification in these languages is that of encoding pluractionality as well as the multiplicity of actions and participants. The rest of the chapter is devoted to a detailed discussion of the semantic contents associated with each of the noun class prefixes that categorize non-finite verb forms in Eegimaa and of the similarities and differences that exist between the nominal and verbal uses of these class markers. The default noun class prefix *e-* is the most frequent class marker, both in the nominal and verbal domain. Non-finite verb stems that are assigned to this class do not form a semantically homogeneous class of event types. In addition, if a non-finite verb is assigned to this class, it cannot participate in the class shift patterns that characterize verb forms which take other prefixes as their inherent classification. The rest of the chapter focuses on describing the semantic properties of the other noun class prefixes that are used for overtly classifying non-final verb forms. In line with earlier research, it is shown that these markers are mostly associated with meanings related to pluractionality and multiplicity of actions and participants. When comparing the use of these markers across the nominal and verbal domain, it appears that prefixes that function as collective and plural markers in the nominal domain tend to function as markers of pluractionality and iterativity in the verbal domain. It is thus suggested that **BOUNDEDNESS** may be counted as the semantic feature that is shared across the border of nominal and verbal classificatory markers.

Even though overt verb classes in Eegimaa encode meanings that are more specific than those usually ascribed to the lexical semantics of verbs (e.g. telicity, transitivity), Chapter 7 shows that these properties play a role as underlying principles of class prefix alternations on non-finite verb forms. Although overt verbal classification is lexically determined, non-finite verbs may frequently shift classes. These patterns of class shift entail differences in event and argument construal. When prefix *e-* is used to re-classify a non-finite verb form that is typically assigned to another prefix, this shift can mark such things as increased individuation (of the object argument), increased telicity and boundedness. Prefix *e-* is thus described as an affix that contributes to event delimitation and high transitivity. On the other hand, when non-finite verb forms shift to class markers *ga-* and *ba-*, this process of re-classification is used to signal a decrease in transitivity levels, which is typically associated with such features as atelicity, unboundedness and lack of individuation with respect to the object argument.

Chapter 8 concludes the book by summarizing the main findings and the novelty of the analyses. Appendix A contextualizes the linguistic geography and the genealogical classification of the Eegimaa language in the larger Atlantic context. Appendix B provides a sketch description of Eegimaa phonology and morphophonology, which is meant to better contextualize the morphophonological alternations that may characterize nominal and verbal classification in the language.

Serge Sagna’s book is a very welcome contribution to typologically oriented literature on systems of nominal and verbal classification. Firstly, the volume shows how grammaticalized classificatory strategies may transcend the border between noun-y and verb-y word classes and what functional commonalities there exist between the different contexts of use of these sets of grammatical markers. Particularly promising are, in my opinion, the results pointing to **BOUNDEDNESS** as the most general semantic feature that is shared across the border between nominal and verbal classificatory patterns. If boundedness is the most relevant property for the general conceptualization of entities and events, semantic properties such as animacy (for entities/nouns) and transitivity (for events/verbs), could be

considered as adding up on this high-level conceptual building block to further specify the construal of referential and predicative expressions. The hypothesis that there exists some sort of hierarchical ordering between semantic properties of classificatory devices would deserve additional empirical testing, both from a typological and psycholinguistic perspective, and in an attempt to better understand the implications of these properties on cognitive and linguistic categorization processes.

Secondly, the book contributes to the ongoing debate on Niger-Congo noun class systems by demonstrating the added value of explicative models that systematically distinguish between morphological classes and agreement classes when accounting for the functioning of these systems. Underscoring the need for this split clearly contributes to the clarity of language-specific descriptions as well as to the comparability of these descriptions with grammatical gender systems worldwide.

Thirdly, Sagna's work beautifully demonstrates how in-depth knowledge of culture-specific biases in gender assignment critically contributes to the description of gender assignment rules and of mismatches between semantically and lexically motivated patterns of agreement. In this specific case, the fact that Sagna is himself a member of the Eegimaa speech community has facilitated the task of penetrating cultural biases in the functioning of the system. These results highlight the methodological necessity of more active participation of community members in the interpretation of field data and of culturally-grounded methods of data elicitation and observation.

The book is very rich in content and discoveries. It brings together the results of the author's earlier work on nominal and verbal classification in Eegimaa (Sagna 2010; 2012; 2019; Schultze-Berndt & Sagna 2010), yet it contributes new perspectives on the phenomena under study and opens up to the notion of cross-categorical classification as a novel typological domain, to be explored further within and across the languages of the world.

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