A Prototype Theory Approach to Noun Classes in Sereer-Saloum

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1. Noun classes in Sereer-Saloum

1.1. Introduction

African languages are known for elaborate nominal categorization systems, and the Atlantic language Sereer-Saloum is no exception. Noun classes in this and other languages have received treatment in terms of the morphological and phonological dimensions of noun classes (Givon 1970, McLaughlin 1992, 1997). The semantic dimension is also heavily explored, particularly in languages that possess both noun class markers and numeral classifiers (Aikhenvald 2000). Typically, at some stage in the development of a noun class system, semantics is thought to play an important role in marking nouns according to salient visual, interactional or functional features, as well as capturing residual historic and current socio-cultural information.

In Sereer, noun classes are defined along two parameters: a pre-nominal classifier and a post nominal enclitic determiner, as illustrated in (1):

(1) a. obarada (o)le, xaparada (a)xe  ‘quicksand’
   b. miir ne, miir ke  ‘wall’
   c. tokoor fe, tokoor ke  ‘maternal uncle’

In (1a) the prefix is o- for the singular and xa- for the plural, while the determiners are -l- and -x-, respectively. In (1b) and (1c) there is no prenominal classifier. Nouns differ along both of these dimensions, with differing vowel-only (a-, o-) or consonant-vowel (xa-) prefixes as well as with varying determiners, which are differentiated by the core consonant (l, n, f, k, x, ng, w). Because there are only three prefix morphs but several determiner consonants, some noun classes (such as n.k and f.k) have bare, prefix-less stems, yet are often nevertheless marked by consonant mutation patterns typical of the phonology of that noun class. Thus, noun class is overall defined by a combination of prefix, determiner, and consonant mutation pattern of the stem.

Classes in Sereer are traditionally discussed in terms of the class numbering system set by Fal (1980), where each unique singular and plural form counts as a separate class, as is the case with Bantu also. Here, I will refrain from treating singular and plural classes separately, since singular and plural forms are not freely combinable but are restricted to certain predictable pairings. Instead, I will refer to one class as one such pairing, based on the statistical frequency of the pairing in the database of Sereer from which the current study draws. This is in keeping with the distinction between controller genders and target genders by Corbett (1991:45, 151), in which controller gender refers to the agreement class generalizing over singular and plural forms for the same noun. In Sereer there also exists a handful of instances of unexpected singular-plural pairings, which will be discussed in Section 5. It could be that the current state of singular-plural pairings is only the most recent of a long history of pairings in Sereer.

Table 1 summarizes the singular-plural combinations that occur most frequently in Sereer-Saloum, and compares them with approximate equivalents in two additional dialects: Sereer-Siin (McLaughlin 1992) and Sereer Mar Lodi (Renaudier 2012).

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1. When the noun root ends in a vowel, the agreement vowel on the determiner is not pronounced, as in (1a).
Table 1 Dominant singular/plural noun class combinations in three Sereer dialects

<table>
<thead>
<tr>
<th>Saloum Class</th>
<th>Singular</th>
<th>Plural</th>
<th>Siin Class</th>
<th>Mar Lodi Class</th>
<th>General semantics</th>
</tr>
</thead>
<tbody>
<tr>
<td>ox.w</td>
<td>o--x</td>
<td>--w</td>
<td>ox.w (1/2)</td>
<td>ox.w</td>
<td>human class</td>
</tr>
<tr>
<td>al.ak</td>
<td>al</td>
<td>ak</td>
<td>al.ak (3/5)</td>
<td>gil.ak, gil.ak</td>
<td></td>
</tr>
<tr>
<td>1.k</td>
<td>--l</td>
<td>--k</td>
<td>1.k (6/10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>al.k</td>
<td>a--l</td>
<td>--k</td>
<td>al.k (3/10)</td>
<td>gil.k, gil.k</td>
<td></td>
</tr>
<tr>
<td>1.k</td>
<td>--l</td>
<td>a--k</td>
<td>1.k (6/5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ol.xax</td>
<td>o--l</td>
<td>xa--x</td>
<td>ol.xax (11/12)</td>
<td>(gol.xax)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>fol.xax (9/12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n.k</td>
<td>--n</td>
<td>--k</td>
<td>n.k (7/10)</td>
<td>gin.k, gin.ak</td>
<td></td>
</tr>
<tr>
<td>f.k</td>
<td>--f</td>
<td>--k</td>
<td>fof.k, pak (8/10,15)</td>
<td>(fa)fan.k</td>
<td>(borrowings)</td>
</tr>
<tr>
<td>ong.fone</td>
<td>o--ng</td>
<td>fo--n</td>
<td>ong.fon (4/13)</td>
<td>ong.ak, ong.fin</td>
<td>diminutives</td>
</tr>
<tr>
<td>gal.gak</td>
<td>ga--l</td>
<td>ga--k</td>
<td>a</td>
<td>gal.fiw</td>
<td>augmentatives</td>
</tr>
</tbody>
</table>

The table shows at most 10 dominant controller classes in Sereer, and their equivalent classes in two other varieties of Sereer. From this table, it is clear that the class marking with fo- and fa- has disappeared in Sereer-Saloum; members of those two classes existing in Siin and Mar Lodi are distributed to a range of classes in Saloum according to some clear and some unclear class membership characteristics. Most notably, fa- and fo-prefixes merged in Saloum to a single class that is classifier-less but has an f singular determiner (f.k).

In her extensive work on the morphology and phonology of Sereer noun classes, McLaughlin asserts that there is no discernible semantic motivation for the noun class groupings observable in Sereer, saying instead that it represents a grammaticalized noun class system, meaning that it is a system in which “productive classification based on semantic factors is assumed to have existed at an earlier period in the history of the language, but which now has disappeared (1992:27).” Part of the reason she could not uncover semantic patterns is because she assumed the semantics of nouns can be defined exclusively on a feature-based approach to the semantics of nouns, e.g., [+human]. Assuming a feature-based approach to semantic decomposition, only the human vs. non-human distinction is immediately noticeable.

With this study, I hope to show that semantics-based distinctions are still present in the language, albeit with a different (i.e., more reduced) semantic partitioning than the language once may have possessed. To achieve this, I will use a prototype-based rather than a semantic feature-based approach. A prototype-based approach does not assume there is a finite set of features that nouns can have or not have. In fact, it does not even focus on nouns, per se, but on the conceptual categories that nouns evoke. These categories have fuzzy boundaries and gradient internal structure. This falls out of the fundamental assumption of prototype theory (which it shares with all cognitive linguistic subfields) that language is experientially learned in the same way as and concomitant with the learning and development of all other cognitive structures. Therefore, a acquisition and formal systematization of nouns is an acquisition and systematization of a conceptual structure.
The reason for suspecting semantic motivations for noun class membership in Sereer is twofold: 1) when considering the clustering of concepts around noun classes, it is hard to ignore certain patterns pertaining to groupings based on physical and functional traits (as will be discussed below in Section 3), and 2) typologically, languages that have complex noun classification systems have consistently been shown to display diachronically evolving and synchronically present semantic motivations for the distribution of their classifiers (cf. Aikhenvald 2000 for a thorough multilanguage survey). For Sereer to stand as an outlier that does not possess an internal semantic logic to its noun class system would be an unusual typological expection. A description of semantic effects in languages for which this has been shown is beyond the scope of the current work, but some more relevant and informative case studies include those done for Swahili (Moxley 1998), Dyrbal (Dixon 1982, Lakoff 1987), Bantu (Maho 1999), Niger-Congo (Denny and Creider 1986, Spitulnik 1989) and most directly relevant, Gújjolaay. In addition to noticing in similar noun class languages, the role of the determiner in noun class distinction in Sereer cannot be overstated since in most cases the only way to deduce a noun’s class in context is know the determiner. This is because in Sereer-Saloum prefixes have been reduced to only three distinctive morphs: ’xa-, ’o- and ’a-.

The figure below is a schematization of all possible prefixes and determiner enclitic consonants observable across modern dialects of Sereer (Faye 2005 for Sereer-Saloum). It shows the vowels that can occur as prefixes, as well as the consonant vowel combinations logically possible.

### Figure 1

Classifier vowels and determiner consonants across Sereer dialects

| Grey: Not present in any dialect |
| Black: Sereer-Saloum |
| Red: Dialects other than Sereer-Saloum (Siin and Mar Lodi) |

<table>
<thead>
<tr>
<th>a</th>
<th>i</th>
<th>o</th>
</tr>
</thead>
<tbody>
<tr>
<td>fa -- af</td>
<td>fi -- if</td>
<td>fo -- of</td>
</tr>
<tr>
<td>ga -- ag</td>
<td>gi -- ig</td>
<td>go -- og</td>
</tr>
<tr>
<td>ka -- ak</td>
<td>ki -- ik</td>
<td>ko -- ok</td>
</tr>
<tr>
<td>xa -- ax</td>
<td>xi -- ix</td>
<td>xo -- ox</td>
</tr>
<tr>
<td>na -- an</td>
<td>ni -- in</td>
<td>no -- on</td>
</tr>
<tr>
<td>wa -- aw</td>
<td>wi -- iw</td>
<td>wo -- ow</td>
</tr>
<tr>
<td>ia -- al</td>
<td>i -- il</td>
<td>o -- ol</td>
</tr>
</tbody>
</table>

Here, they are organized in a manner that illustrates the more extensive range of prefixes these languages (or the proto-language) may once have had amongst all logical possibilities. In Mar Lodi, for instance, ’gi- and ’fi- prefixes are observable, which are missing in Siin and Saloum, leading to a potential hypothetical ’i- series of prefixes that is...
completely lost in Saloum (fi- in Mar Lodi signals the diminutive singular class; gi- can be observed in the equivalent of the al.ak class in Saloum). It is plausible that enclitics evolved as such as a result of post-nominal movement of classifiers, (or conversely, that classifiers evolved from the pre-nominal movement of determiner clitics). The variety of prefixes in the other Sereer dialects (in red) suggests that this may be so, given that some of those prefixes seem to retain the same consonant as in the modern determiner morpheme, while in Saloum (in black) only the vowel remains (with the exception of plural class xa-). While a reconstruction of Sereer classifiers and determiners is beyond the scope of the current work, it is interesting to note that what we may in fact be observing is an eroded stage in Sereer noun class morphophonology across dialects. This happens more so in Saloum as compared to what is observed in other dialects, and with all logical possibilities. Further, the only consonant-vowel prefix surviving in Saloum are fo- (diminutive sg), ga- (augmentative sg+pl), and xa- (plural) as the only morphologically different plural class, while many more survive across the other dialects (fa-, ga-, fi-, gi-, fo-, go-).

That onset consonant may have been present at one time and subsequently disappeared from most class prefixes is plausible when considering child acquisition data from languages that show similar patterns. For instance, Bantu noun class morphology is observed to go through three stages of acquisition: first, the child pronounces no prefix, then he utters just the vowel (e.g., /o/ in prefix mo-), and finally the full prefix is produced (Demuth 2000:283). If child acquisition patterns are seen as reflecting historical tendencies of language change and loss, it may be possible that prefix classifiers were once more diverse and abundant in Sereer in general, and in Saloum in particular.

1.3 Agreement patterns

Agreement is optionally marked on each subsequent element following the noun within the phrase, in the form of a copying of the initial prefix (2-3). When a noun can have multiple class associations it complies with multiple agreement patterns accordingly, as illustrated in (5):

(2)  
\[ \text{of-} \text{mbed} (\text{of-}) \text{jigd-u (of-}) mos-u (of-} \text{nge} \]
cl-street long-adj beautiful-adj (cl-)Det
‘the long beautiful street’

(3)  
\[ \text{of-} \text{mbed} (\text{of-}) \text{ndo} /\text{uni0257} \text{g-u (of-} \text{nge} \]
cl-street cl-dirty(ro[-\text{uni0257}ig]-adj cl-Det
‘the dirty street’

(4)  
\[ \text{of-} \text{of-} \text{sum-u} \]
water cl-hot-adj Det ‘the hot water’

\[ \text{of-} \text{of-} \text{sum-u le} \]
water hot-adj Det ‘the hot water’

(5)  
\[ \text{of-} \text{of-} \text{sum-u} \]
water cl-hot-adj Det ‘the hot water’

\[ \text{of-} \text{of-} \text{sum-u le} \]
water hot-adj Det ‘the hot water’

\[ \text{fa} \text{-niik} \text{fe} \text{-ndodg-u} \]
elephant dirty-adj Det ‘the dirty elephant’

\[ \text{fa} \text{-niik} \text{fe} \text{-ndodg-u le} \]
elephant dirty-adj Det ‘the dirty elephant’

When uttered without an adjective, only (5) has two noun class memberships: f and l. (4) illustrates an interesting phenomenon of noun class retention in agreement patterns but not in regular categorization. Normally it only has the l singular noun class, but at times
also displays agreement as if it were f class. This happens often with previous-existing fa- and fo- prefixes (to be discussed in Section 5: Lost Classes).

There are good reasons to believe that the generalizations in Figure 1 may have been a reality at some point in Sereer noun class phonology. For instance, for some members of the f.k class, an agreement prefix is retained while not appearing as a prefix on the noun:

(6)  ataaya (fa-)ñaayu fe ataaya a-ñaayu (a)ke
    tea (cl-)spicy-adj Det tea cl-spicy-adj (agr)Det

‘the spicy tea’ ‘the spicy teas’

This is unlike (5) above because the noun ‘tea’ has only one variant, ataaya (there is no fataaya). Nevertheless, it seems to work with the fa- agreement pattern on adjectives. The noun class for ataaya is f.k, even although it takes no fa- prefix, suggesting that it may have had a fa- prefix at some point. It also suggests that all f.k class members may at one point have had a fa- prefix. In this way, agreement patterns are important in revealing the current status of unstable or class-changing nouns, and in so doing, revealing something about the past existence of class markers that are no longer present.

1.4  Morpho-phonology of noun classes

Noun classes correlate with consonant mutation patterns stem initially on the noun (McLaughlin 1994). In fact, in addition to prefixes and enclitic determiners, one additional way to recognize noun classes in Sereer is by the consonant mutation pattern of a particular stem. For instance, (7) is a full paradigm for the noun ‘woman’ (Sereer-Saloum) and ‘bilk bowl’ (Sereer-Siin, example from McLaughlin, ibid:283):

(7)  ‘woman’ (Saloum)  ‘milk bowl’ (Siin)
    o-tew oxe  o-roon ole  singular
    rew we    xa-toon axe  plural
    ga-ndew ale  a-ndoone (ale)  augmentative singular
    ga-ndew ake  (a-ndoone ake)  augmentative plural
    o-ndew onge  o-ndoone onGe  diminutive singular
    fo-ndew ne  fo-ndoone ne  diminutive plural

Thus, given a new noun that in citation form begins with /t/, one may guess that the plural form will be /t/-initial. McLaghlin (1992) groups nouns according to which of three consonant mutation grades they belong to, with three possibilities: grade a (continuant-initial), grade b (stop-initial) and grade c (prena salized). The graph below represents a statistical distribution of the nouns in the database according to sg-pl noun class and type of consonant mutation that occurs between the singular and plural forms (e.g. from grade c to grade b)²,³.

² The consonant mutation pattern was limited to this directional change in order to make the noun classes easily operationalizable in a statistical test. Otherwise, nouns can be categorized by stem-initial pattern much like in (7) above, with multiple mutations and an assumed underlying form, which would be difficult to correlate with individual noun classes.
Graph 1 is informative because it illustrates that certain noun classes are very strongly correlated with particular stem alternations. For instance, the human class *ox.w* dominates cases of lenition (and voicing), while *n.k* contains most of the cases of prenasalization. On the other hand, fortition and devoicing are more evenly spread out across three of the non-human classes, albeit with a strong preponderance of *ol.xax* for both.

The propensity of the *n.k* class to impose prenasalization is visible with classes of nouns denoting types of trees, in comparison with the corresponding nouns denoting the fruits of those trees:

\[(8)\]

<table>
<thead>
<tr>
<th>Noun Class</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>baak le</em>, <em>afkaak ake</em></td>
<td>‘baobab fruit’</td>
</tr>
<tr>
<td><em>baak ne</em>, <em>baak ke</em></td>
<td>‘baobab tree’</td>
</tr>
<tr>
<td><em>daaf ne</em>, <em>daaf ke</em></td>
<td>‘daaf fruit’</td>
</tr>
<tr>
<td><em>oxica ole</em>, <em>xaqica axe</em></td>
<td>‘jujube’</td>
</tr>
<tr>
<td><em>xoxica ne</em>, <em>xoxica ke</em></td>
<td>‘tamarind tree’</td>
</tr>
<tr>
<td><em>osooβ ole</em>, <em>xasoob axe</em></td>
<td>‘cashew fruit’</td>
</tr>
<tr>
<td><em>sooβ ne</em>, <em>sooβ ke</em></td>
<td>‘cashew tree’</td>
</tr>
</tbody>
</table>

These types of duals illustrate that phonological alternations are imposed by the noun class itself in those cases where the stem begins with a consonant that is eligible for a particular alternation. So, in cases such as ‘jujube tree’ and ‘cashew tree’ the *n.k* class member is prenasalized because these stems begin with the types of consonant grades

\[3\] Consonant mutation types (key for Graph 1):
- Lenition: *b>*w, *t>*r, *p>*f
- Fortition: *r>*t, *f>*p, *x>*q, *w>*b, *s>*c
- Voicing: *d>*d, *f>*d, *k>*g, *c>*j, *c>*j, *p>*b, *β>*β
- Denasalisation: *nj>*c, *mb>*p, *nd>*t, *nq>*q
- Devoicing: *d>*t, *d>*f, *g>*k, *j>*c, *j>*c, *h>*β, *b>*p

\[4\] Devoicing is a type of fortition, but were separated here due to the significantly larger number of tokens of devoicing cases as compared to every other type of fortition.
that are eligible for prenasalization. However, there are also clear semantic motivations for class membership, in that all nouns denoting the tree of some fruit now belong in the n.k class, even if it does not begin with a consonant grade eligible for prenasalization (such as ‘tamarind’ and ‘daaf’, for instance). Given what we saw in Figure 1 above, we can tentatively hypothesize that prenasalized stems are drawn to the singular n class (or that the singular n class imposes prenasalization) due to alliterative agreement: the original prefix may have been na- rather than Ø, and when the prefix consonant was lost, prenasalization remained to create alliteration between the stem initial consonant and the determiner consonant - e.g., \textit{ngic’ne}.

An additional generalization about the correlation between stem morphology and noun class membership can be state about tendencies in classes marked with a xa- or a- prefix. These condition a devoicing or fortition of the stem-initial segment, e.g. \textit{gorong le}, \textit{a korong ake} ‘type of heavy drum with no hole’; \textit{ofog ole}, \textit{xaopog axe} ‘family’.

These generalizations are imposed by the noun class morphology, and not by the semantics of the noun class. I propose that if semantically salient traits exist for a noun, they will be taken into consideration first, and then phonological changes occur once the noun is classified, and given that the stem has an initial segment eligible for a grade alternation (for instance, /n/-initial stems cannot undergo any change). Some nouns will be more apt to be marked for semantic saliency than others, and therefore in those cases where nouns have no particularly salient semantic traits, its phonology may be enough to draw that noun to a particular class.

2. Prototype theory and noun classes

Prototype-based semantics arose out of cognitive psychology and the work of Rosch (1978 and later) and others (see Lakoff 1987 and Sagna 2012 for a summary of research). The theory proposes that concepts, as reflected in linguistic items, are structured relative to cognitive reference points, or best examples, and that this conceptual organization is what is uncovered during experiments intended to reveal prototype effects using scalar goodness of example ratings and reaction times. Prototype effects can only arise in experimental settings; thus, in any research where no experiment takes place, the effects are merely hypothesized based on observable distribution and discourse or corpus frequency of certain types of linguistically-marked concepts across categories.

The main tenet and assumptions accumulated after a series of such experiments are: (a) Conceptual categories have central ‘best example’ members. Members of categories do not share common properties but are related to each other by family resemblance. (b) Additional members are related to the characteristics of the best examples by metaphoric, metonymic and image schematic links, which are both experientially and culturally motivated (also known as ‘chaining’). (c) Specific knowledge overrides general knowledge. For this reason, basic level terms, such as bird, insect, and tree, can be classified differently from their specific members. Specific members may get reassigned to other categories due to overriding culturally-specific knowledge about the significance or utility of those items in social and cultural life. (d) Categories are motivated and not predictive, i.e., we cannot guess where a new noun would be classified based on necessary and sufficient conditions, but we can form a hypothesis to be tested based on salient traits of the best examples, for which frequency effects can be informative. For this reason, we must always ask ‘why this class?’ and never ‘why not another class?’ when it comes to noun class membership. Echoing an analogy drawn with historical semantic change by Traugott (1989:33), a guiding principle
is that category membership is possible but not necessary, just as tendencies in semantic change over time are possible but not necessary.

One common misunderstanding pertaining to the assumptions and evidence of this approach is that finding experimentally validated prototype effects suggests that an exact cognitive representation of a concept was thus uncovered, and that there is a strong assertion that there is a direct relationship between the linguistic item and said category. However, the experimental results from prototype effects should instead be taken as statistically significant reason to reject the null hypothesis: in this case, the null hypothesis is that there is no plausible reason to rely on semantic groupings to glean cognitive category prototypes and distributions. Scalar goodness of example ratings are merely a way to determine if some linguistic element has some strong statistically significant tendency to point to some semantic core. Thus, it makes claims about underlying cognitive categories and not about linguistics categories. Linguistic marking, such as noun class marking in the form of prefixes or phonological classes are seen as a ‘window’ to cognitive categories.

Languages are thought to capture and reflect category structures, but vary, both cross- and intra-linguistically, in the degree to which categorization is transparent. For instance, in Sereer, as well other Niger-Congo as well as Bantu languages, there is a very clear and predictable distinction between the person class (ox.w) and everything else, making the assignment of any new person term to that class straightforward. This is certainly not the case with Eegimaa (Sagna 2012), which uses the ‘person’ class to categorize nouns other than those referring to humans, such as those for culturally important mammals; thus, as typologically ubiquitous as the animacy distinction is, languages adopting this distinction can behave quite differently in accordance with diachronic and cultural forces. And it is certainly the case in Sereer that, while the ox.w class is only reserved for humans, there are human-denoting nouns in other classes.

On the other hand, the internal structure of all remaining classes in Sereer is less transparent and requires resorting to other ways of explaining assignment of nouns to those classes. It requires an observation of possible prototype effects, but also of metaphoric and metonymy extensions (the latter of which is the most common). From the prototype point of view, metonymic extensions are unpredictable occurrences, or occur in chains in local networks, and they must be studied one by one without broader category defining attributes necessarily being definitive for particular members in a metonymic chain. For instance, in Sereer-Saloum, the words for asep ale ‘throat’, alukul ale ‘hiccup’, aakaal aar ale ‘jaw’, aqagax ale ‘phlegm’, ayyarah ale ‘drool’ and apaP ale ‘molar’ are all found in the same class (alak). The metonymic extensions can be proposed as follows:
We also see an extension to a more abstract noun ‘stickiness’ and an extension to an external but close noun class ($lak$) for a synonym (these differences will be discussed in Section 4 below). Prototype theory cannot test nor account for metonymic and metaphoric extensions, only image schematically- or culturally-based salient similarities. Nevertheless, much work on other languages has shown extensive metonymic and metaphoric chaining (for instance, Downing 1996 for Japanese) and there is ample reason to suspect chaining exists in Sereer as well. Categories, are thus structured by several processes of which prototype effects and metonymic effects are crucial.

As already discussed, there are also issues of phonological conditioning to take into account, which will be addressed in this work along with semantic explanations. In the case of Sereer, stem-initial consonant mutation very strongly correlates with noun class, and several rounds of diachronic waves of change may result in certain classes being the default classes for nouns observing certain consonant mutation patterns, such as prenasalization and devoicing. However, upon analyzing deverbal nouns, such as eventive derivations or instrumental derivations, will show that the event nominalization is flexible when it comes to category assignment. That is, while a consonant mutation pattern may be linked to a linguistic class (i.e., to some triggering classifier-determiner combination), the assignment of the same eventive noun to different classes suggests multiple conceptualizations of that event (specific eventive deverbal nouns are discussed in Section 4 and Section 6). Thus, while there are phonological conditions that hold of classifier environments, these are concomitant with the semantic principles governing the designation of a noun as as belonging to a particular class. That is, a consonant mutation grade may be linked to a linguistic noun class, but a speaker still has to decide which of several classes to pick for any given deverbal noun, in the case where such assignment flexibility is available (as is the case with many $n.k$ deverable nouns). This decision hangs on the aspectual class of that deverbal noun, as we will see.

Determining the prototype, or best example, of a given category is also a challenging task, particularly in the absence of an experiment involving goodness of example ratings, and relying solely on elicited and dictionary data. One challenge, as it is known, is that not all categories are created equal: some categories may have very salient single central members, while others may be more diffuse. For instance, an implementation of the goodness-of-example experiment for Mandarin Chinese classifiers (Chang-Smith 1996) shows that while long rigid objects, $zhi$, and thin flat objects, $zhang$, 

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**Figure 2** Metonymy chain for ‘throat’ and its extensions

![Diagram of metonymy chain for 'throat' and its extensions](image-url)
have very clear prototypes (‘pen’ and ‘paper’, respectively), it is unclear what the prototype for long flexible objects, *tiao*, is. Further, in a language such as Sereer, which seems to convincingly display a case of category merging (accompanied by category loss, Section 5) over the course of its history and areal spread, it is even more likely that some categories will have less clear central members. As I discuss the individual classes in Section 3, these prototype phenomena will be further detailed.

3. **The conventional classes**

Five core noun classes, as a singular-plural pairing, are discernable in Sereer Saloum. With the exception of *ox.w*, the somewhat transparent human class, these will be discussed here in turn along with their salient traits.

3.1 **The n.k class**

Semantically, the conceptual prototypes for this class seem to pertain to the domain of human production activities, their processes, their tools, and their results. It also crucially includes the basic level terms for tree, bird, and insect, and contains most specific types of trees and insects (but not birds). For instance, *liпе ne* ‘fish’ is *n.k* class, but *acelem ake*, a particular kind of needlefish that is very long and swims close to the surface of the water, is *al.ak* class, which is dedicated to long thin objects. The basic level term for body *njer ne* is also here, while specific body parts are distributed throughout other classes as well as this one. This class seems to be similar to that described by Tendeng (2007) for Joola, which he terms the class of economy and social organization, in that it is the category in which most nouns pertaining to productive human activity seem to be concentrated. The specific main subdomains included in this class are: clothing and clothes-making; meals, cooking and all utensils; house and household parts and divisions; fish (basic level) and many types of fish; several mammals; most insects; most trees; the words for forgery/smithery, construction and machine (the latter, a French loanword). This class exhibits some of the diffuse effects discussed previously: namely, it seems to have two main core clusters: productive items and actions, and items belonging to ‘nature’.

Most notably, there is a very clear phonological pattern in this class, which is that many of the nouns belonging in this class are nouns undergoing the prenasalized consonant grade (stem-initial *mb-, nd-,* etc.) (in my database, 77 out of 81 items recorded for this class which do show some form of consonant mutation from singular to plural have a prenasalized singular root). Deverbal nouns, however, may be classified in this and additionally in some other class, depending on what type of noun the deverbalization results in:

(9) 

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>nguuT ne, quuT ke</em></td>
<td>‘theft’</td>
</tr>
<tr>
<td><em>okuuT ole, xa kuuT axe</em></td>
<td>‘theft’</td>
</tr>
<tr>
<td><em>maar ne, maar ke</em></td>
<td>‘braiding (activity)’</td>
</tr>
<tr>
<td><em>omaar ole, xamaar axe</em></td>
<td>‘braid (resulting item)’</td>
</tr>
<tr>
<td><em>ndabid ne, tabid ke</em></td>
<td>‘payment (sum, physical money)’</td>
</tr>
<tr>
<td><em>atabd ale, atabd ake</em></td>
<td>‘paying (activity)’</td>
</tr>
<tr>
<td><em>nduus ne, tuus ke</em></td>
<td>‘shaving knife’</td>
</tr>
</tbody>
</table>
As the data in (9) shows, the nouns whose single forms have presnasalized stem-initial consonants are \textit{n.k} class, while a very close semantic equivalent falls either in \textit{al.ak} or \textit{ol.xax} classes. While there are possible correlations discussed between noun class membership and consonant mutation patterns in general, no existing explanation proffers why presnasalized stems should occur in the \textit{n.k} class. I would like to offer the alliterative agreement argument: Sagna (2012) finds that Eegima prefers to sustain agreement patterns in spite of ‘official’ class membership in order to maintain an alliterative quality in agreement patterns when nouns are contextualized in longer phrases (noun plus demonstrative, or adjective-modified nouns). I would like to entertain this possibility for Sereer as well: presnasalized consonants provide an alliterative quality with the following nasal \textit{n}-base determiner. Other such alliterative processes can be observed with lost \textit{fa}- and \textit{fo}- class agreement (Section 5). In light of this hypothesis of alliterative agreement, deverbal nouns then naturally ‘fit’ into the \textit{n.k} class in those cases where the underlying stem-initial consonant provides an opportunity for prenasalization: so, \textit{d}-, \textit{b}-, \textit{j}- initial stems (which prenasalize as \textit{nd}, \textit{mb}, and \textit{nj}, respectively).

There is another effect observable in the \textit{n.k} class, a semantic one. From the amongst the items in (9) above, we note that most of them are not simply a synonymous alternative to putting a cross a nominalized action, but actually deviate in terms of what aspect of an event \textit{n.k} classified nouns capture (see Section 6 on abstract nouns). In most cases, where the activity classified in the \textit{n.k} class is not just a standard activity, it is some result of that activity - a resulting object (e.g. the braid) - or an instrument or object used in carrying out the action.

Additionally, this class seems to be dominated by human cultural activity nouns, especially clothes, cooking and production, as well as nature terms. All terms for insect species are here, as well as all terms for trees.

### 3.2 The \textit{al.ak} class

Unlike \textit{n.k}, this class is more revealing of a salient shape-based generalization. This class consists of entities that have conceptually salient source-path-goal (motion trajectory), container, and cycle image schemas. These three schemas are in fact related, as they all contain some element of a visually traceable path:

---

\[\text{atuus ale, atuus ake}\] ‘shaving activity’

\[\text{fogoorand ne, fogoorand ke}\] ‘bath area, bathtub’

\[\text{afogax ale, afogax ake}\] ‘bathing’

\[\text{saktax ne, saktax ke}\] ‘returning activity’

\[\text{asaktax ale, asaktax ake}\] ‘returning activity’

---

\[\text{Image schemas are conceptual primitives posited as the most basic meaning componens, on the basis of which other meaning components are built. These are said to be conceptually universal by virtue of the shared embodied experience of all language speakers. The connection between SPG image schema and cyclic paths, both spatial and temporal, have been attested across languages, especially in lexical and grammatical structures pertaining to conceptualizations of space (Talmy 1988, and others).}\]
Figure 3  Schematization of source-path-goal, cycle, and container schemas

The conceptual schema of virtual or fictive motion (Matlock 2004) is shared by these three schemas: as one attentionally follows the motion of a trajector along a path, so one attentionally follows incremental points along a path, whether that path is straight or circular. For this reason, straight and circular paths are frequently present in the same categories or grammatical structures.

Some common subdivisions of the *al.ak* class are: tools such as cooking sticks, spoons, arrows, pens, bows and chalk; the types of drums that are longest; wood, timber, and many wood products; the spine and some metonymies chaining to it; weather phenomena; repetitive or cyclical abstract concepts such as ongoing activities; abstract paths, ways, roads, and line; vehicles (presumably, by metonymy from path nouns); birds (presumably, by metonymy to the trajector-landmark schema, whereby birds are trajectors following a path of motion).

Figure 4  Radial structure for *al.ak* class

In Figure 4 above, member nouns are classified in terms of some physical or metaphoric traits of the SPG schema. For instance, containers are consistently categorized in this

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6 See the Appendix for a reproduction of these diagrams in larger size.
class, and this may be because their shape traces a cyclic path. Activities are metaphorically understood as temporal paths. Roads and lines are physical paths that are conceptualized via virtual motion: they form paths because intentionally we follow them from source to goal, rather than conceptualizing them as entire objects. This is true of virtual paths that also coincide with a permanent physical existence (such as a paved road) or simply virtual paths, such as the trajectory of a stream of liquid.

*Al.ak* is one of the categories in which members are most clearly internally structured, that is, very few nouns are left unaccounted for in this category. There are also many metonymic chains in this class that branch off from these central items. For instance, because wood and timber are in this class, wood products are also here: paper (and by extension postal stamp; both of these are French loanwords), chess piece, and various wooden tools.

Another interesting metonymy centers around terms that pick out prototypical directional lines, namely paths and roads. Vehicles are metonymically related to these by virtue of being conventionally associated with roads. In fact, given that all words for vehicles are loanwords, and given that there is otherwise a class which is a better candidate for the loanword class (the assumed default loanword class *f.k*), it is interesting that vehicles all get assigned to the *al.ak* class and none to the *f.k* class.

Another interesting trait of the *al.ak* class is that it is the default class of deverbal activity nouns for many types of actions as will be discussed in Section 6.

There are three subcategories related to this one: *l.k*, *al.k* and *lak*. These differ solely whether or not the vowel prefix is included in the singular, the plural, or neither form. Of the three subclasses, the *lak* is the most populated of the three subcategories, and it seems to specialize for particularly round or bulbous objects:

**Figure 5** Radial structure for *lak* subclass of *al.ak*

There are only 49 members (0.6%) of this class in the database, and most of them have some salient three-dimensional or elevated (non-flat) shape.

The class *al.k* has only three members - well, lake and cemetery/grave - all of which seem to be an extension of the container and bounded region categories in *al.ak*, specialized for areal containers that have some depth.

The class *l.k* is less clearly defined: malaria, clay, soap, water, mud, cow, goat, hammer are its only members given the available data. It may be a culturally determined specialized subclass whose internal logic is unavailable without sufficient ethnographic information. It is certain that this class is not accidental, and that the consultant is
insistant that the \textit{a-} prefix is not optional mandatorily omitted. This class may very well be the ‘elsewhere’ class, as many languages tend to have such a class (Lakoff 1987) for nouns that have no other salient trait by which to be categorized.

3.3 The \textit{ol.xax} class

While the nouns in this class also focus on a round shape, it is less motivated by the roundness and more by the small individuated nature of the items, with typical members being those that can easily undergo a mass-multiplex conversion, or by extension, those that are brittle or easily breakable (thus being able to undergo mass-multiplex changes). The dominant subgroupings include: small, round and/or bulbous objects (marble, ball, bullet, ring, several words for ‘piece’); large areal bounded regions (camp, field, sea/river); fruit; brittle, shiny, breakable objects (shells, bones, scales, glass, mirror); subset of body part terms referring to bones; subset of borrowed technology terms; musical instruments; sound emission terms.

The figure below illustrates a radial conceptual structure for this class.

![Radial structure for \textit{ol.xax} class](image)

The most prototypical members are round bulbous objects, such as fruits and small objects, which tend to be brittle. This is also a class where semelfactive and punctual events are categorized, as opposed to ongoing and atelic activities, which tend to be classified in the previous \textit{al.ak} class.
It is interesting that all words pertaining to milk and milk products belong to this class, and somewhat unexplainable. There is one type of calabash or round receptacle used exclusively for milking (obirir ole) that may act as the metonymy source for milk (CONTAINER FOR THING CONTAINED) and subsequently the association may have spread to other milk products, namely curdled milk and cream made from milk. Additionally, milk (osis ole) is in Siin part of the liquid fo-class, which takes the l determiner, and this could have provided an easy transition to the ol.xax class once the fo-class did not catch on as a productive class in Saloum.

There is much room for variability with respect to which particular concept will be categorized in which particular noun class, with its corresponding prototype. Clearly, for instance, when it comes to body parts, salient traits about the shape of the body can fall either in the long thin category or in the round bulbous category. There is no objectively real motivation for placing ‘cheek’ in with ol.xax rather than with al.ak, i.e., picking out the bulbousness of that body part rather than the cyclic path traced by its round contour. These are not decisions speakers make consciously, and the language makes formal, in the form of grammatical gender, subtle cognitive and cultural semantic differences in the way objects, entities, and events are categorized.

3.4 f.k class

This is usually thought of as the default loanword class. However, only 28 out of 87 loanwords (from a mixture of French, Arabic/Wolof, and English) actually belong to this class, with the rest distributed across the other classes. The association with loanwords may fall out of the strong association of this class with religious terminology. If Wolof was a medium for transfer of religious and cultural ideas from cultures external to the area (namely Arabic and European), then it makes sense that the following would constitute the core of the more entrenched loanwords: religious vocabulary (words for sin, god, prayer, iman, as well as words for family members with more authority - mother, father, maternal uncle, doctor (loanword)); precious metals and relevant metonymies (jewelry, money); imported goods and goods not native to the area (coffee, sugar); terms for large administrative areas (district, town, hospital); members of Siin and Mar Lodi fo- and ja- classes (liquids and large tough hide animals).

Figure 7 Radial structure for f.k class
There are still novel loans that are categorized here in those cases, perhaps, where no other salient shape-based traits coerce categorization into al.ak or ol.xax, but where speakers still want to mark the word as novel or borrowed. Examples of this include emay fe ‘nail polish’, gidi’ fe ‘gun’, and bandaas fe ‘bandage’.

4. Noun class flexibility

A handful of nouns either have multiple class memberships, or prove to have class-assignment flexibility (i.e., the speaker does not feel strongly about one or two particular associations). Cognitively, multiple associations are seen as alternate construal (Langacker:1987:38), whereby speakers pick out more than one of several saliently present defining traits by which to refer to an entity. Noun class flexibility of this kind is most often observed when the singular form from one conventional class and the plural from another are mixed, resulting in the creation of an ad hoc class. With enough such reassignments, presumably this would result in the creation of a new class in the language over time, with the ‘founding’ members acting as prototypes for future members, or as sources in a metonymic extension. The observed such multiply categorized nouns in Saloum are as follows:

(10) ‘seed’           ol.xax        <<<>>  l.k
      ‘computer’        f.k           <<<>>  ol.xax

Finally, there are only a couple of cases of nouns with more than two class memberships:

(11) ‘agreement, consentment’ nanoor       onanoor ole, xananoor axe
     onanoor ale, ananoor ake
     nanoor ne, nanoor ke
     *nanoor fe, nanoor ke

(12) ‘sadness’        yudnax        yuDnax ne, yuDnax ke
     ayuDnax ale, ayuDnax ake
     ayuDnax ole, xayuDnax axe
     *yuDnax fe, yuDnax ke

For these, it is only abstract nouns (states and activities) that have flexible categorization. There are too few of these to make any generalizations as to the semantic traits of those nouns that tend to have multiple categorization (I have included an exhaustive list), but their existence is indicative of the shifting nature of noun class boundaries.

5. Lost classes

Much of what happens in grammaticalization and semantic change also happens in the domain of nominal classification. This includes the fact that nouns can continue to be classified in two (or more) categories for a time during the transition or reconceptualization of that noun as part of a new category (Traugott 1989:33). The newer class and the older class may continue to coexist indefinitely, or the old may die off, or alternatively, remain strong in some but not other dialects. This co-occurrence of categories reflects an ability on the part of speakers to pick out different salient traits at different times.
Several class distinctions that remain in Siin but not in Saloum are those dedicated to liquids (fo-) and those dedicated to a class that includes certain animals such as snake, elephant and crocodile (fa-). In Sereer, these class prefixes are sometimes lexicalized as part of the root, and sometimes not. The best evidence that they represent remnants of the classification prefix comes from agreement patterns:

(13) fañiïk fe ‘the elephant’ (l.ak, f.k) fañiïk fandëh fe ‘the small elephant’
fañiïk faleng fe ‘the one elephant’

(14) foofi le ‘water’ (l.k) foofi sumu le
foo fi fasumu fe ‘the hot water’
foo fi rodgu le foo fi fandodgu fe ‘the dirty water’

Normally, the agreement prefix is a copy of the class prefix on the noun, in which case the root noun ‘elephant’ would have to be ñiik. In support of the incorporation of fa- into the root is evidence from consonant mutation patterns; in plural form the initial consonant undergoes consonant mutation, a process that happens on root consonants and not class prefixes - fañiïk fe, pañiïk ke. However, considering the agreement patterns in (14) for fo- class words, it becomes clear that the language is still in flux with respect to agreement classes for disappearing noun classes, such as the liquid class. For instance, the word ‘water’ can easily follow two agreement paradigms, with and without initial prefix copying. In the cases where the prefix does copy, the class changes to fe, even though when uttered in isolation the consultant rejects *foo fi fe. This could be a case of overextension of the agreement, for alliterative purposes (that is, even the determiner is agreeing, but is underlyingly le).

The class with prefix fo- is largely lost or unretained in Saloum but is retained in Siin.

Table 2 Liquid class dissolution from Siin to Saloum

<table>
<thead>
<tr>
<th>Siin</th>
<th>Saloum</th>
<th>Reassigned to</th>
</tr>
</thead>
<tbody>
<tr>
<td>fosis</td>
<td>osis ole</td>
<td>ol.xax milk</td>
</tr>
<tr>
<td></td>
<td>xasis axe</td>
<td></td>
</tr>
<tr>
<td>foofi</td>
<td>foofi le</td>
<td>l.k water</td>
</tr>
<tr>
<td></td>
<td>foofi ke</td>
<td></td>
</tr>
<tr>
<td>fosaaɓ</td>
<td>mbasaɓ ne</td>
<td>n.k hibiscus ‘bassap’</td>
</tr>
<tr>
<td></td>
<td>pasaaɓ ke</td>
<td></td>
</tr>
<tr>
<td>fo’oy</td>
<td>fo’oy le</td>
<td>l.k blood</td>
</tr>
<tr>
<td></td>
<td>fo’oy ke</td>
<td></td>
</tr>
<tr>
<td>fojem</td>
<td>ojem ole</td>
<td>ol.xax salt</td>
</tr>
<tr>
<td></td>
<td>xacem axe</td>
<td></td>
</tr>
<tr>
<td>foneew</td>
<td>oneew ole</td>
<td>ol.xax cream from milk</td>
</tr>
<tr>
<td></td>
<td>xaneew axe</td>
<td></td>
</tr>
<tr>
<td>fotir</td>
<td>dutir fe</td>
<td>f.k palm oil</td>
</tr>
<tr>
<td></td>
<td>dutir ke</td>
<td></td>
</tr>
<tr>
<td>fogoon</td>
<td>ogoon ole</td>
<td>ol.xax sap</td>
</tr>
<tr>
<td></td>
<td>xakoon axe</td>
<td></td>
</tr>
<tr>
<td>fosuun</td>
<td>osuun ole</td>
<td>ol.xax smoke</td>
</tr>
<tr>
<td></td>
<td>xasuun axe</td>
<td></td>
</tr>
<tr>
<td>fo’ut</td>
<td>o’ut ole</td>
<td>ol.xax dust</td>
</tr>
<tr>
<td>(Mar Lodi)</td>
<td>xa’ut axe</td>
<td>n.k glue (Fr)</td>
</tr>
<tr>
<td></td>
<td>gol ne</td>
<td></td>
</tr>
</tbody>
</table>
As seen in Sereer-Siin above (Table 2), there was once and may still be in other dialects of Sereer, a form of classification reserved for a small set of nouns denoting liquid or fluid substances. However, fo- as a prefix in Sereer-Siin has much broader applicability than just the liquid class (McLaghlin (1992:147 observes that Class 9 nouns are fluids or aggregates, and that not all fluids fall in Class 9), and the degree to which it can be called the ‘liquid class’ in any of the dialects is debateable. Another possibility is that Siin possesses a specialized substances class that was never a class in Saloum.

Similarly, the fa- class is reassigned to either the f.k class or the l.ak class.

**Table 3**  
fa- class dissolution from Siin to Saloum

<table>
<thead>
<tr>
<th>Siin</th>
<th>Siin class</th>
<th>Saloum</th>
</tr>
</thead>
<tbody>
<tr>
<td>fo-ñiig fee</td>
<td>14</td>
<td>fañiik fe, pañiik ke elephant</td>
</tr>
<tr>
<td>pa-ñiig ke</td>
<td>14</td>
<td>fañiik le, apañiik ake</td>
</tr>
<tr>
<td>fo-ngas fee</td>
<td>14</td>
<td>fanas fe, fanas ke game</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fangon fe, faqon ake death</td>
</tr>
<tr>
<td>fa-noox fee</td>
<td>8</td>
<td>fanoox fe, panoox ke crocodile</td>
</tr>
<tr>
<td>pa-noox ke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fa-lay fee</td>
<td>8</td>
<td>falay fe, falay ke / lay ke speech</td>
</tr>
<tr>
<td>fa-nqool fee</td>
<td>14</td>
<td>fanqool fe, apanq ake serpent, spirit</td>
</tr>
</tbody>
</table>

Again, the default class would be f.k, which incidentally retains alliterative agreement, and only ‘elephant’ can join the class dedicated to round bulbous objects.

6. Abstract nouns

Abstract nouns can be found across all classes except f.k (and of course, the human class). In addition to the predisposition of certain prenasalized stems to fall in the n.k category, discussed above, deverbal nouns express semelfactive actions, activities, current states, resulting states, resulting objects and instruments. However, there are two main division in the way abstract nouns are classified which exists between al.ak and all other possible classes (with ol.xax as the main other class). This division between al.ak and the classification of eventive nouns in all other classes has to do with the way events are conceptualized. Specifically, deverbal nouns with an atelic aktionsart and those which denote ongoing activities are classified in the al.ak class:

(15)

a. adaad ale, adaad ake ‘dream’
   daad ‘to dream’

b. acagan ale, acagan ake ‘fixing, repairing’
   jag ‘to fix’

c. amax ale, amax ake ‘building, constructing’
   max ‘to build’
This may be explained by the image schema prototype that is salient in this class: the path image schema is a spatial analogue of a temporal path, which is ongoing, unidirectional, and without a goal.

When actions are semelfactive, or when the deverbal process results in a noun whose extension is an instrument used in that action or is otherwise an instrumental element in the action, or is a state or object resulting from that action, then the *n.k* class (16) or the *ol.xax* class (17) is used:

Looking at (15k) and (16f), the verb *tas* has a polysemy that includes the following meanings: to take apart (either breaking or systematic taking apart), to conclude or end an event, and being in a state of extreme tiredness (being metaphorically 'totaled' or 'broken down', as it were). Interestingly, the two aspects of its meaning that pertain to a resulting state or profiled subset of the action (its end) are the two meanings for which the *n.k* class can be used, while the *al.ak* class is only used for the ongoing atelic activity sense of the verb. Also, quite systematically, *al.ak* class eventive nouns can denote both the ongoing action and the semelfactive or resulting action, while the reverse is not true. *Al.ak* is thus the default class for eventive nouns, while further specialization in classification occurs according to the telicity of the action.

In addition to *n.k*, the *ol.xax* class is also used frequently for deverbal nouns:

<table>
<thead>
<tr>
<th>(16)</th>
<th>(17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. mbaf ne, pał ke</td>
<td>ofalangool ole, xapalangool axe</td>
</tr>
<tr>
<td>b. mbuka ne, puka ke</td>
<td>owuuq ole, xabuuq axe</td>
</tr>
<tr>
<td>c. naf ne, naf ke</td>
<td>obiic ole, xapiic axe</td>
</tr>
<tr>
<td>d. njud ne, cud ke</td>
<td></td>
</tr>
<tr>
<td>e. njoval ne, cogonal ke</td>
<td></td>
</tr>
<tr>
<td>f. tas ne, tas ke</td>
<td></td>
</tr>
<tr>
<td>g. njaw ne, caw ke</td>
<td></td>
</tr>
<tr>
<td>h. cit ne, cit ke</td>
<td></td>
</tr>
<tr>
<td>i. ngaclax ne, qaclax ke</td>
<td></td>
</tr>
<tr>
<td>j. ndatalir ne, tatalir ke</td>
<td></td>
</tr>
<tr>
<td>k. eetattr ne, eetatir ke</td>
<td></td>
</tr>
<tr>
<td>l. ñoot ne, ñoot ke</td>
<td></td>
</tr>
</tbody>
</table>
ogim ole, xakim axe ‘belief’
ogim ole, xakim axe ‘to believe’
ol’aan ole, xa’aan axe ‘episode of sleep’
daan ‘to sleep’
ofen ole, xapen axe ‘a lie’
fen ‘to lie’
ods ooax ole, xats ooax axe ‘single sneeze’
disoox ‘to sneeze’
ogim ole, xakim axe ‘belief, believing’
kim ‘to believe’

While both ol.xax and n.k are dedicated to semelfactive and telic actions, the n.k class in (16) consists almost exclusively of prenasalized or nasal-initial roots (with the exception of tas ne). The most important distinction to be drawn, however, is between al.ak and all others, as this indicates that there is a conceptually salient difference between ongoing and punctual activities, just as there isa conceptually salient difference between continual paths and individuate items.

7. Baptizing task

To test the viability of the classes as foci of salient perceptual traits, I conducted a brief experimental baptizing task. The consultant was asked to classify (i.e., give the fully specified nominal form with a determiner) a series of made-up words. I described the nature of the referent denoted by the nouns in the context of a narrative involving an alien world with objects and entities similar to ours, and provided him with the imagined root words (e.g. fup, bap, etc., in (18) below). Additionally, I presented the consultant with images of a few objects of various shapes and sizes, told him their made-up name, and asked him to classify the noun. (18) summarizes the results relative to the closest Sereer noun approximating the meaning described.7

(18) | Alient word | Closest Sereer | Description |
---|---|---|---|
a. ofup ole | obiy ole | some kind of alien fruit |
b. obap ole | okop ole | alien receptacle (cup) |
c. oferer oxe | osereer oxe | a Fereer person (alien race) |
d. tuk ne | ndaxar ne | type of alien tree |
e. falup fe | --- | type of alien dance |
f. ocob ole | --- | round objects (spools) |
g. mayu fe | yaay fe | alien mother |
h. juji fe | paap fe | alien father |
i. ombogo le | --- | imagination |
j. ojocu ole | angid ale | alien eye |
k. amosa le | aqaaqoox ale | alien spit |
l. ombob ole | --- | round pieces used in alien game |
m. mbara le | donga le | alien hills |
n. njamu ne | ndoki ne | alien clothes |
o. figu ne | nguuru ne | flying insect with stingers (bee) |
p. njine le | ñiñax ne | crawling insect (ant) |
q. olub ole | --- | round objects for juggling |
r. fulum le | fooli le | alien water |
s. obacic ole | --- | objects for standing on to see |

7 The items that have --- in the Sereer column were images shown or imagined object or phenomenon, and do not correspond to any known item in Sereer. The items in bold highlight those cases where categorization is different between the alien word and the closest Sereer equivalent.
t. oroox ne  njomb ne  wrestling match type of activity
u. fooloox ne  afay ale  wind on alien planet
v. ayool ale  atep ale  raining (activity, rain itself)
w. adupiip ale  a’eel ale  clouds on alien planet
x. guugur ne  muus ne  alien cat-like animal
y. apurit ale  kes ne, obwat ole  alien box
z. giyof ne  owas ole, nguic’ne  scaly bones on alien body

The novel categorization reveals some interesting patterns. First, it is clear that most items are categorized in the same way as the native Sereer categorization of the closest equivalent noun. Further, in those cases where there is no equivalent noun, it is interesting that overall things are classified in ways we would expect: falup fe (e), fa-alliterative agreement with the f determiner; ocob ole (f) a round object; ombob ole (l) and mbogo le (i), do not get defaulted to the n.k class, even though we would expect them to by being prenasalized stems, but to the roundness class ol.xax, as we would expect if the semantics is the most salient categorization parameter.

Such an experiment results in bypassing the accumulation of historically accumulated phonological and semantic layers influencing classification in the current state of the language, and directly getting at native speaker intuitions about the classification of objects based on shape, size, entity type, and function. Overall, the consultant stays faithful to the original classification in Sereer. For instance, the words for ‘mother’ and ‘father’ are strangely not grouped with human nouns in Sereer, rather with f.k, and it is the same with this imagined language as well. And there are cases clearly violating phonological tendencies of certain stems to fall in certain classes, indicating that at least some of the time, speakers make categorization decisions on the basis of semantics, and that the phonological agreement pattern is a force imposed by the linguistic system.

8. Conclusions

It may be argued that forces of linguistic change and category reshifting, as well as the compounding of the effects phonological forces on noun classification may lead us to conclude that any semantic similarities amongst members in a category (as well as any explained and unexplained differences) are merely historical relics and are not part of a live cognitive system. To this Lakoff states “there is nothing ‘mere’ about historical relics (Lakoff 1987:111).” The data here shows that there is a mixture of phonological and semantic factors contributing to the classification of any particular noun in Sereer, and these factors mutually reinforce each other over time. At the same time, at a given stage of the language the categorization system is a snapshot of the psychological reality of certain physical traits of objects in the categorization process, as evidence from the baptizing task suggests. The scope of linguistic markers over a set of linguistic expressions is different from the underlying conceptual cagtegory structure, but both are present in the process of linguistic performance.

Conceptual categories as demarcated by formal grammatical and morphological classes may be variable structured by prototypes, some more and some less. For instance, the strong prototype effects observed in the ol.xax class show that there is a cognitively salient roundness aspect that speakers attend to actively in the current language, while the n.k class does not have as strong a prototype. The the division of eventive deverbal nouns show that speakers form discernment between different types of events in terms of the discernment between different types of entities, thus lending to the strength of best
example for at least two of the classes - al.ak and ol.xax. Many tokens straddle class boundaries, and speakers may even show intraspeaker variability. However, as the current study is proposing, this may in fact be indicative of an underlying conceptual system that is organized yet flexible, and one whose change over time can be explained by the behavior of both predictably and non-predictably categorized members.

References


Figure 6: \textit{ol.xax}