

Dissemination workshop “Gender and classifiers: cross-linguistic perspectives” at the University of Surrey, 17 January 2014

Programme

9.00-9.25 **Welcome coffee**

9.25-9.30 Greville Corbett: Welcome and introduction

9.30-10.30 Gunter Senft: Systems of Nominal Classification

10.30-11.15 Maria Polinsky: The Differential Representation of Number and Gender

11.15-11.45 **Coffee break**

11.45-12.15 Sebastian Fedden and Greville Corbett: Gender and classifiers combined: Mian and its typological context

12.15-12.45 Pier Marco Bertinetto and Luca Ciucci: Possessive classifiers in gender-marking Ayoreo and Chamacoco

12.45-13.15 Natalia Eraso: Gender and classifiers in the Tanimuka Language - Colombia

13.15-14.30 **Lunch break**

14.30-15.00 Alexandra Clifford: The relationship between noun categorisation and perceptual categorisation: A developmental and cross-linguistic approach

15.00-15.30 Colette Grinevald and Orly Goldwasser: At the Crossroad of Gender and Classifiers in Ancient Egyptian

15.30-16.00 Serge Sagna: On the categorisation of body parts and loanwords in the Gújjolaay Eegimaa noun class/gender system

16.00-16.30 **Coffee break**

16.30-17.00 Matthias Passer: The Twofold Nature of Nominal Categorisation: Shifting from Semantics to Morphosyntax?

17.00-17.30 Kate Bellamy and Rita Eloranta: Mochica: Between a numeral classifier and a special counting system

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Systems of Nominal Classification

Gunter Senft

This talk first discusses briefly the basic problem of how the perceived world is expressed and represented in language and how language refers to the perceived world.

Then it presents and exemplifies the systems of nominal classification that can be found in the languages of the world, and finally it discusses some central problems of nominal classification.

The Differential Representation of Number and Gender

Maria Polinsky

General outline. The goal of this paper is to test the hierarchical organization of phi-features with a special emphasis on number and gender in Spanish. We investigate **(i)** whether number and gender belong to the same category space in the feature hierarchy or one feature dominates the other, and **(ii)** whether number and gender evidence single- or multi-valued systems for their respective features. Given the lack of consensus on these issues based on primary data, we approach questions (i) and (ii) experimentally, using the phenomenon of agreement attraction: a situation where ungrammatical sequences are perceived as grammatical when one of the NPs is erroneously identified as determining agreement.

(1) The key to the **cabinets** are on the table.

(Bock et al., 2001)

By comparing agreement effects across number and gender, we address point **(i)**: depending on whether number and gender features are equally active/visible in linguistic representations, we can determine whether these categories have the same cognitive strength. Within a single class of features, we address point **(ii)**: depending on the visibility of specific feature values, we determine whether the category of number (and, separately, gender) is structured as single- or multi-valued. We find that number but not gender features yield attraction effects, evidencing the higher accessibility of number features. This result motivates the dominance of number over gender in the phi-feature hierarchy (cf. Antón-Méndez et al. 2002; Carminati 2005 for similar conclusions based on different data). Turning to (ii), we find that plural drives attraction while singular is functionally inert. We thus confirm the single-valued representation system for number: [PL] vs. unspecified. Within the gender category, masculine and feminine behave on par in agreement, motivating the multi-valued representation system for gender: [M] vs. [F] (pace Harris 1991).

To further evaluate Harris' hypothesized single-value Spanish gender system, we extended the scope of our study beyond monolingual controls to heritage Spanish speakers. Here we do find evidence of a single-valued representation system for gender ([F] vs. unspecified). Thus, heritage Spanish speakers reinterpret gender as a simpler, single-valued system, which is consistent with the simplification feature systems elsewhere outside of L1 (gender in heritage Russian: Polinsky 2008; Sekerina 2012; gender in Spanish-German code-switching: Gonzalez-Vilbazo 2008; gender in Italian L2 learners of Spanish: Dussias et al. 2013; gender in Chinese L2 learners of Spanish: Dowens et al. 2011).

Experiments. Adjectives in Spanish inflect for gender and number and, crucially, can be used predicatively so as to allow for intervening material between the adjective and its subject noun. Consider the sentences in (2). Note the predicative use of the adjective, as well as the intervening noun (in a prepositional phrase) between the subject noun and its predicate. Agreement on the adjective is determined by the features of the head noun (shown in bold).

- (2) a. Considero **el libro** en los tableros excelentemente escrito
b. Considero **los libros** en la mesa excelentemente escritos
c. Considero **las cartas** en el tablero excelentemente escritas
d. Considero **la carta** en las mesas excelentemente escrita

Only a handful of verbs in Spanish embed small clauses (Contreras 1987): *considerar* 'consider' in (2), *dejar* 'leave' and *ver* 'see'. Within each item, we manipulated the number (SG vs. PL) and gender (M vs. F) of NP1, NP2, and ADJ; this manipulation yields 64 sentences: $2_{NP1-NUM} \times 2_{NP1-GEN} \times 2_{NP2-NUM} \times 2_{NP2-GEN} \times 2_{ADJ-NUM} \times 2_{ADJ-GEN} = 64$. Given that we are interested in the behavior of grammatical gender, that is, the gender a noun leaves the lexicon specified for, our gender manipulation on nouns required the use of different lexical items for masculine vs. feminine values. Within an item, we matched the meaning of these nouns as closely as possible (as with *tablero* 'table' and *mesa* 'table'). Stimuli were normed to avoid potential ambiguity such that NP2 could agree with ADJ; 60 subjects who did not take part in the experiment consistently rated the likelihood of this unintended parse low (average: 2 out of 5). Stimuli were recorded by an adult male native speaker. We recruited 126 participants through Amazon's Mechanical Turk crowdsourcing service. Subjects listened to one version of each item and rated its acceptability on a scale from 1 (*completamente inaceptable* 'completely unacceptable') to 5

(*completamente aceptable* 'completely acceptable'). The results were split by the number/gender value for NP1. There was a strong main effect of grammaticality, which means that all the subjects recognize agreement violations in both number and gender. **NUMBER:** Native speakers showed pronounced agreement attraction with a NP1 in the SG and NP2 (attractor) in the PL ($p=0.05$). The effect in heritage speakers was similar however weaker. **GENDER:** Neither group showed attraction effects. The two groups differed in their rating of grammatical structures; the native speakers' ratings were comparable for grammatical agreement in M and in F while the heritage speakers rated agreement in F significantly higher than agreement in M ($p=0.001$).

Discussion. Number and gender thus reveal different patterns with respect to agreement attraction, which suggests that they are not equal, with number outranking gender on the feature hierarchy. With respect to feature representation, we find that for both native and heritage speakers, number is structured as a single-valued opposition where PL is specified and SG is inert (underspecified). The explanation for such a contrast between SG and PL may reside in the morphological visibility of the plural. The featural representation of gender is different across native and heritage speakers. For native speakers, gender is a multi-valued feature, with both M and F equally specified; native speakers rate grammatical agreement with gender at a distance equally high for M and F. The multi-valued opposition in Spanish gender casts doubt on Harris' (1991) analysis of Spanish gender. However, heritage speakers' representation of gender is consistent with Harris' analysis because in this group only F is specified. We consider and reject the explanation that the change from multi-valued to single-valued representation of gender in heritage speakers is due to the influence of English, which lacks gender altogether. Single-valued F-based gender is also found in L1-Italian/L2- Spanish speakers (Dussias et al. 2013) and in Spanish-German code-switching (Gonzalez-Vilbazo 2008). Thus, non-native speakers of Spanish reanalyze the multi-valued representation of gender as a single-valued opposition because it offers a more constrained set of options.

Gender and classifiers combined: Mian and its typological context

Sebastian Fedden and Greville Corbett

Many languages systematically categorize their nominal vocabulary. This categorization can be a gender system, as in German. Another possibility is a system of classifiers, as in the Austronesian language Kilivila of Papua New Guinea. Kilivila distinguishes about 177 categories, based on semantic properties, for example long and flexible objects, pots, or wooden objects. Most commonly a language will have only one system or the other. To have both gender and classifiers is relatively rare.

Mian, a Papuan language of the Trans New Guinea family spoken in Papua New Guinea, is such a language. It has a gender system with four genders: masculine, feminine, and two neuter genders. In addition there are six classifiers: for males, for females, for long objects, for bundles, for objects which cover something and a residue classifier for the rest. These classifiers have the form of prefixes on verbs of object handling or movement, such as 'give', 'throw' and 'fall'. Example (1) shows both agreement of the clitic article in gender and number with the controller *fút* 'tobacco (neuter 1)' and the use of the classifier *tob-* 'long object (sg)':

- (1) *nē* *fút=e* *tob-ò-n-i=a*
1SG tobacco=ART.SG.N1 3SG.LONG.O-take-SS-1SG.SBJ=and
 'I take the long tobacco leaf and then I ...'

Recent research has turned up more languages, like Mian, that have more than one categorization system. Examples include Miraña (Witotoan, Colombia), Retuarã (Tucanoan, Colombia), Akatek (Mayan, Guatemala), Tariana (Arawak, Brazil), Tidore (West Papuan, Indonesia), and Anindilyakwa (Non-Pama-Nyungan, Australia).

The special interest of Mian is that it requires us to enhance our typology of noun categorization systems. While the gender system of Mian is more or less what we would expect, in fact, it is quite similar to German with an additional neuter gender, the classifiers constitute a more intermediate system: they encode classifier-type shape distinctions, such as 'long object', but their occurrence as verbal prefixes is more reminiscent of the agreement affixes characteristic of gender systems. By studying languages like Mian we expand our knowledge about the possibilities and the restrictions for noun categorization systems in the languages of the world, both when they occur individually and when in combination.

Possessive classifiers in gender-marking Ayoreo and Chamacoco

Pier Marco Bertinetto and Luca Ciucci

The Zamucoan family consists of no more than two living languages (Ayoreo and Chamacoco) spoken in the Northern Chaco. The former is spoken by about 4500 people across Paraguay and Bolivia, the latter by about 1600 people originally settled along the Paraguay River in northeastern Paraguay. While the first stable contacts with the Ayoreo began at the end of the Forties, the Chamacoco were already in contact with the Western civilization at the turn of the XIX century, so that their language has had an intense linguistic contact with Spanish and Guaraní. In this paper we shall refer to the Ebitoso dialect, spoken by the vast majority of the Chamacoco people.

In the Zamucoan languages, nouns and adjectives do not exhibit any difference in suffixation, and express the following categories: *gender* (masculine / feminine), *number* (singular / plural) and *form*. By "form" we refer to a peculiar morphological tripartition (base-form vs full-form vs indeterminate-form), which appears to be a unique feature of these languages. The base-form is typically used for predication and its singular is the starting point of any inflectional and derivational operation, as well as the form adopted by the first member of a compound. The full- and the indeterminate-form, by contrast, occur in argumental contexts, and differ among themselves in terms of specificity vs non-specificity of the intended referent.

According to Fabre (2007), all Chaco languages distinguish between possessable and non-possessable nouns. The former, with the exception of Vilela, present affixes expressing agreement with their possessor (or genitival modifier). Non-possessable nouns, by contrast, usually require the presence of a possessive classifier. As for the Zamucoan languages, however, Ayoreo and Chamacoco show remarkable differences concerning the inventory and uses of possessive classifiers.

Ayoreo presents the largest variety of possessive classifiers among the Chaco languages (more than twenty according to Fabre (2007: 80)). The use of the possessive classifier is obligatory when the non-possessable nouns enters a possession relationship. The classifier always takes gender, number and form as required by the context, whereas the possessum always occurs in singular base-form (1). This structure contrasts with that of noun + adjective(s) phrases, because in this case only the last element takes the number, gender and form required by the context, while the preceding components appear in the singular base-form [FF= full-f.; BF=base-f.; F=indeterminate-f.]:

- (1) Uac-achid-i burica
 2P-classifier_animal-MS.FF horse.MS.BF
 'Your horse.' ['horse' MS.BF = *burica*; MS.FF = *buricai*; MS.IF = *buricaric*]

Chamacoco presents only one classifier, *uhut* (cf. Ayoreo *ujoi* 'fellow'). It indicates relationships, companionship or even friendship between the possessor and the possessum. It is not only restricted to human beings but even semantically very specific, which is unexpected because there are no other classifiers. It thus appears to be a violation of the typological hierarchy proposed in Fabre (2007: 78). Such considerations and the comparison with Ayoreo suggest that Chamacoco *uhut* is a relic of a larger system of possessive classifiers which has almost completely disappeared, possibly owing to contact with Spanish and Guaraní.

Another difference consists in the fact that Chamacoco classifiers, in contrast to Ayoreo (see the above examples), agree in gender, number and form with the possessum (2). This is further indication of their recessive status:

- (2) P-uhu-t tshir-c.
 1S-classifier_fellow-MS.FF Chamacoco-MS.FF
 'My (companion the) Chamacoco.'

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Gender and classifiers in the Tanimuka Language - Colombia

Natalia Eraso

In the Tanimuka language (Oriental Tucanoan), spoken by about 500 people of the Tanimuka (u'pairã) and the Letuama (retuarã) groups in the department of Amazonas in Colombia, two systems of nominal categorization co-occur together and intersect: gender and numeral classifiers.

Nouns in this language are divided first into *human* and *non-human* entities. This grammatical categorization is associated with a semantic categorization that includes *three gender values*. Nouns with the +human feature take *masculine*, *feminine* and *plural* gender suffixes, and nouns with the –human feature (whether animate or inanimate) take *neuter* gender. Nouns obligatorily agree in gender and number with their determiners (1).

The system of *numeral classifiers* is *obligatorily* suffixed on *numerals* or any word denoting *quantity*. There are two types of numeral classifiers: a closed system of sortal classifiers (2 a,b) and an open system of classifying elements of lexical origin (2c).

- *sortal* classifiers form a group of four monosyllabic marks, completely grammaticalized, that make reference to the figure *shape* and *configuration*: long (1 D), flat (2 D), round (3 D), and flexible (1 D), /string-like.
- classifiers of lexical origin form an open system of disyllabic marks, partially grammaticalized, which can refer to measure terms, essence, function or simply are repeaters or semi - repeaters of the words they classify.

These lexical elements also play a role in nominal composition and are closer to the type of ‘class markers’ that are found in neighboring Amazonian languages, since they function as some sort of agreement to the extent that they appear on both the numeral and the determined noun (2c). Both types have an anaphoric function and serve as reference tracking devices. These classifiers are also suffixed to *demonstratives* in deictic function (3b), *adjectives*, where they acquire anaphoric and referential functions (4b), and they also serve as elements of nominalization (4c).

- (1) iʔ-ká ɸarú-á hóʔba-ká
 DEM-N plantain-N big-N
 ‘this big plantain.’
- (2) a. ~ípa-bí óá-ka b. ~ípo-ó óá-ka c. ~ípa-~tatá óá-~tatá
 2-CLslong corn-N 2-CLsround corn-N 2-CLsmonoculture corn-CLsmonocult.
 ‘two corn cobs’ ‘two grains of corn’ ‘two cornfields’
- [DEM-_{gen} N-_{gen}] [I.pronominal-_{CL}]
- (3) a. iʔ-ká ɸarú-á béʔ erá-bé b. í-bí béʔ erá-bé
 DEM-N plantain-N 2ps-bring-IMP DEM-CLslong 2ps-bring-IMP
 ‘Bring this plantain.’ ‘Bring this [one].’
- (4) a. hóʔba-ká biá b. hóʔba-ó-ká biá c. hóʔba-ó jí-ré ~bi-~ihi-be
 big-N pepper big-CLSround-N pepper big-CLSround-N 1s-DAT 2-give-IMP
 ‘big pepper’ ‘big round pepper’ ‘give me the big (round) [one]’

The relationship between noun categorisation and perceptual categorisation: A developmental and cross-linguistic approach

Alexandra Clifford (School of Psychology, University of Surrey)

Categorisation is a fundamental aspect of human cognition and a salient feature of language. The process of grouping discriminable objects or sensations into categories provides structure for both thought and language and enables efficiency in cognition and communication. Understanding categories is therefore crucial for understanding the complexity of the human mind. Investigating how and why we group objects or sensations into particular categories can inform us about the interaction between thought and language. For example, are the categories that we use structured around our language or are they innate and hardwired? When and how are categories formed? How do categories in language and thought relate and impact on each other? These are questions that are of interest within a range of disciplines including Psychology, Linguistics, Anthropology and Cognitive Science. In this talk, I will discuss the relationship between noun categorisation and perceptual categorisation, drawing on developmental and cross-linguistic evidence from a number of different domains. I will discuss the implications of key findings for debates about the origin and nature of categories and the interaction between language and cognition.








At the Crossroad of Gender and Classifiers in Ancient Egyptian

Orly Goldwasser and Colette Grinevald

In this talk, we argue that two systems of nominal classification - of genders and classifiers - meet in the hieroglyphic writing system of Ancient Egyptian. The special case of co-occurrence of both systems that we will treat here is circumscribed to a crossroad point between the two systems at the locus of the expression of personal pronouns. Although there is no strict overlap between the two systems of classification, their parallel existence within the same domain of person marking raises interesting questions and provides new information about the conditions of co-existence of gender and classifier systems.

The two systems cohabiting in the hieroglyphic writing are of different nature. The gender system in the hieroglyphic writing comes from the Egyptian *spoken language* and is represented by *graphemes that represent sound structure*. The classifier system, known in the traditional Egyptology literature as “determinatives,” appears only in the *script* system, as additional *unpronounced graphemes*. We have argued that these “determinatives” obey the rules of spoken classifier systems, as established in research over the last decades. Such graphemic classifiers are in fact also found in other writing systems of the Ancient Near East, such as the Sumerian and Hittite scripts. When compared to classifiers of sign languages, which also appear only in a strictly visual medium, they can also be shown to correspond to the realization of the same cognitive abilities or “needs” specified by classifiers of spoken languages.


In the domain of person marking, gender appears in the Ancient Egyptian spoken language in a contrast of masculine/feminine (*M/F*) in person markers, specifically for the 2nd and 3rd person singular as for example in the suffix pronouns for 2nd person (singular) *-k (M)* and *-t (F)*, and for the 3rd person, in the singular *-f (M)* and *-s (F)*. However, 1st person singular is never marked for gender.

We will focus here on a comparison between this undifferentiated gender in the 1st person singular pronoun of the spoken Egyptian language with an interesting development in the graphemic, i.e. unspoken, classifier system, where the first person is broken down into a set of different referents.¹ This differentiation by classifiers concerning first person singular agents - humans and divine entities - may mark it either as [MASCULINE]  / [FEMININE] , which overlap then with the gender categories of *M* and *F*, or by its social ranking of [KING]  [NOBLEMAN] , or as [DIVINE (M / F)] , ² (*M*),  (*F*)³.

We will argue that the development of this classification system for first person singular in the “*silent*” *graphemic classifier* system provides an interesting resource for special reference tracking in some specific contexts. We will show examples of how the choice of one of these classifiers can be used to define more specifically certain agents that stand behind the 1st person of the written message. In this sense, while the gender system refers simply to the sex of the agent, the classifier system allows for a differentiation of the referent agent on a more pragmatic and discursive ground. Text examples will be given of the manipulation of the choice of classifier for special effects, as well as an outline of the diachronic development of 1st person singular classifiers of the Egyptian system.

¹ The different “determinatives” for 1st person singular were already outlined by Gardiner in his seminal book *Egyptian Grammar*, p. 39 – suffix pronouns, p.45 – dependent pronouns, p.53 – independent pronouns.


²  a representation of a masculine god in a human prototype in contrast to the very early animal prototype 

³  the cobra goddess, stands for a prototypical female goddess.



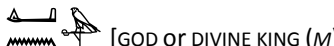

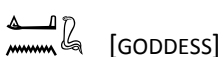


Example:

The verbal construction “I have given” *di.n(i)* could appear in the script with any of the variants shown below for the representation of the first person, i.e. by either classifier, or phonological representation, neither or both:⁴



Full spelling:



di. n. i [MASCULINE]^{CL}
give- PST -1SG

no phonological representation, with classifier:

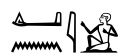
human	 [MASCULINE]	 [FEMININE]
non-human	 [GOD OR DIVINE KING (M)]	 [GOD OR DIVINE KING (M)]
	 [GODDESS]	
social rank	 [KING]	 [DIGNITARY]




without classifier,

 only phonological representation of 1st person, vowel  (*yod*)

 no phonological representation, no classifier very common in early texts

Phonological representation + classifier (rare):

 phonological representation + CL

⁴ The hieroglyph  is here an ideogram/logogram standing for the verb “give” (a hand giving bread). The hieroglyph  (iconically “water”) functions as a mere phonogram, standing for past tense marker n. It carries no iconic-semantic reference to water.  is also a phonogram.

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On the categorisation of body parts and loanwords in the Gújjolaay Eegimaa noun class/gender system

Serge Sagna

Studies on nominal classification systems have shown that physical properties such as shape are important semantic parameters of categorization in classifier systems (Allan, 1977; Craig, 1986; Friedrich, 1970; Grinevald, 2000; Senft, 2000). In Niger-Congo noun class/non-sex-based gender systems where all nouns are assigned to genders (class pairs) based on agreement criteria (Corbett, 1991); the importance of semantic principles is controversial. However shape has also been reported as one of the semantic principles underlying the morphosyntactic classification of nouns into genders (see e.g. Contini-Morava, 1997; Denny & Creider, 1976).

This paper investigates the role of shape as a categorisation principles in the grammatical classification of nouns denoting body parts, parts of things and loanwords which denote parts of entities such as vehicles in Gújjolaay Eegimaa (Jóola ; Atlantic ; Niger-Congo ; Southern Senegal). Like all nouns in the language, the gender membership of nouns denoting body parts is decided based on the agreement evidence. However, Eegimaa has two main genders which are strongly sensitive to shape encoding i.e., shape is an important principle of semantic categorisation for body parts. For example, nouns denoting entities which are prototypically round (spherical) are in the *fu-/gu-* gender as illustrated in 1, whereas those that are flat and thin are included in *ga-/u-* gender as in shown example 2.

- | | | | |
|----------------------|--------------|--------------------|--------------------|
| 1. <i>fu-how</i> | 'head' | <i>fu-la</i> | 'buttock' |
| <i>fu-mangu</i> | 'mango | <i>fi-lellenja</i> | 'orange' |
| <i>fú-ru</i> | 'wheel' | <i>fi-sercal</i> | 'rim' |
| | | | |
| 2. <i>ga-rab</i> | 'cheek' | <i>ga-hah</i> | 'sole of the foot' |
| <i>ga-toj</i> | 'leaf' | <i>ga-pal</i> | 'leaves' |
| <i>ga-pparabrise</i> | 'windscreen' | <i>gá-kkapo</i> | 'bonnet' |

The analysis of Eegimaa body parts and parts of other entities shows that semantic categorisation according to shape is based on prototypicality. In this paper I also show that shape (round and flat) interacts with thinness and thickness and with consistency (flexibility and rigidity).

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The Twofold Nature of Nominal Categorisation: Shifting from Semantics to Morphosyntax?

Matthias Passer

The world's languages have two ways to distinguish different classes of nouns: Classifier systems and gender/noun class systems (the latter consisting of both gender systems and noun class systems). These differ in their formal appearance and function: Classifiers typically occur optionally and contribute to a noun phrase's semantics, while nouns are obligatorily assigned to a referential class in a gender/noun class system that patterns the nominal lexicon. It has often been assumed that gender/noun class systems evolve from classifier systems as a result of a process of grammaticalisation (e.g. Aikhenvald 2000, Duke 2009, Greenberg 1978, Grinevald 2000). This paper introduces a typological method to elicit evidence for suchlike change phenomena.

Since there are no recorded diachronic cases of the development of a classifier system into a concordial class system, evidence outside diachrony must be assessed and evaluated in order to support this assumption. An important prediction drawn from the hypothesis that gender/noun class systems are grammaticalised classifier systems is the existence of a range of non-prototypical, intermediate systems, which display properties of both classifier and gender/noun class systems.

In order to investigate to what extent this prediction holds, ten functional and formal characteristic properties of 30 synchronic systems of nominal categorisation have been examined by the author in order to be aligned on an axis of systematic shift according to our knowledge of grammaticalisation and the attested change phenomena of nominal categorisation (cf. table 01, which shows prototypical systems and systems with mixed properties).

The intermediate systems and systems that combine different types of nominal categorisation are found to be highly frequent and display the expected shifting phenomena. A selection of these systems will be presented (cf. again table 01). The collected data supports the claim that a natural shift in systems of grammaticalisation from classifier systems towards gender/noun class systems exists and that this shift is linked to grammaticalisation.

Table 01: The properties of prototypical and intermediate systems of nominal categorisation.

typical CLS: (Tibetan, Yidiny)	atypical CLS: (Jakaltek)	atypical G/NCS: (Dyirbal)	typical G/NCS: (Hausa, Dongo-Ko, Masri)
optional assignment		obligatory assignment	
flexible class membership		single class membership	
largish class inventory		smallish class inventory	
marked once		multiply marked	
semantically potent		semantically impotent	
markers: transparent origin		markers: opaque origin	
NP- internal marking		marked beyond NP-borders	
overtly marked morpheme		agreement	
speaker-sided assignment		system-sided assignment	
domain: semantics		domain: lexicon/syntax	
low degree of grammaticalisation/ primary grammaticalisation		→ →	high degree of grammaticalisation/ secondary grammaticalisation

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Mochica: Between a numeral classifier and a special counting system

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Numeral classification is commonly treated as a sub-type of nominal classification and so defined as constituting “[...] special morphemes which only appear next to a numeral, or a quantifier. They may categorize the referent of a noun in terms of its animacy, shape and other inherent properties” (Aikhenvald 2000: 2). Numeral classification in this sense abounds in the Amazon in languages such as Palikur (North Arawakan) and Tuyuca (East Tucanoan; Aikhenvald & Green, 1998) but is largely absent from the Andean region to the west.

The notable Andean exception is Mochica, a now extinct language of the northern Peruvian coastal region. It is areally unusual for a number of reasons, one of which is the presence of what have been variously termed ‘quantifiers’ (Hovdhaugen 2004, Middendorf 1892), ‘numeral classifiers’ (Adelaar with Muysken 2004; Salas 2008, 2013) and ‘alternative numerals’ (Hovdhaugen 2004). We will argue in this talk that the observed analytical and terminological variation is due to the complexity of interacting sub-systems in the Mochica grammar, which has been compounded by the relative paucity of data available to scholars. From a more detailed analysis of the examples available in the colonial source (De la Carrera 1644) and later grammar (Middendorf 1892), we identify two interacting numerical systems: (1) a base ten system for enumerating and counting individual items, and (2) a compound system for counting pairs, tens or hundreds of certain, semantically linked, items akin to Bender & Beller’s (2008) ‘power classifiers’. The second system also interacts uniquely with the small set of bound numerals also present in the language. We will also demonstrate that the classifiers for pairs of specific items can be traced back to a verbal and not nominal root, underlining Mochica’s more unusual status.

- (1) ñiteiofe mo virtudes (De la Carrera 1644: 237)
ñiteio-fe mo virtudes
seven-BE DET virtues
‘seven are the virtues’
- (2) nassoplecʉof mo Diosissap (De la Carrera 1644: 164)
na-ssop lecʉo-f mo Dios=i-ssap
one.bound-CL.ten important-BE DET God=GEN-mouth
‘ten are the commandments of God’

We further propose that certain Mochica classifiers may also have spread to Cholón and Híbito, neighbouring languages of the eastern Andean slopes with which Mochica was in contact and which possess more elaborate numeral classifier systems. We also note the presence of similar, but more extensively grammaticalised systems in many Oceanic languages such as Arosi, which possesses means for counting, e.g., two coconuts, ten banana shoots and 100 pigs (Lynch & Horoi 2002). We do not intend to imply a genetic connection between the languages, but want to highlight the possible cultural or ecological similarities that may accompany such linguistic developments.

We believe that the co-occurrence of these functions indicates that the Mochica classification and counting systems may have been in transition when the language was recorded. Certainly, however, the data offer an interesting snapshot of the language as well as the possible developmental trajectories of classificatory mechanisms in language.

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