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THE INTERACTION OF NUMBER AND GENDER IN KATCHA

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The Kadu languages of Sudan's Nuba Mountains have been the subject of an ongoing controversy regarding whether they should be classified as Niger-Congo, Nilo-Saharan, or as an independent family. Against this background, I present novel data from nouns in Katcha. I show that not only does the number system have elements typical of both Nilo-Saharan and Niger-Congo, but that in its interaction with gender it is strikingly reminiscent of Afro-Asiatic, in ways that are typologically unusual. Where nouns are morphologically marked for number, the affix and not the root determines gender, leading to the type of gender polarity more commonly observed in Semitic. More unusually, and more controversially, the semantic basis of the third gender appears to be plurality. 'Plural gender' has been argued to exist in some Cushitic languages, but has never previously been documented outside that family.

1. Introduction

Katcha is spoken in the Nuba Mountains of Sudan, an area of rich ethnic, cultural and linguistic diversity: in an area measuring just 325km by 275km, over 40 languages are spoken (Schadeberg & Blench 2013). These languages belong to four or five distinct language families, with Katcha a member of the Kadu group. The majority of published research on the Kadu languages has been in the area of their genetic classification, and in particular the question of whether they should be affiliated to Niger-Congo or Nilo-Saharan, or whether they constitute an independent family.

The seminal classification of African languages is, of course, that of Greenberg (1950, 1963), who places Kadu alongside the other Nuba Mountain language groups in the Kordofanian family, Kordofanian in turn being considered part of Niger-Kordofanian, now known as Niger-Congo. Interestingly, although he concludes that there is sufficient evidence to include Kadu in Kordofanian, Greenberg notes that Kadu 'shows considerable divergence from the remainder' (Greenberg 1963:149). More recently Ehret (2000) also places Kadu within Niger-Congo.

Greenberg's classification is doubted by Schadeberg (1981) who argues that the evidence linking Kadu to Niger-Congo is no stronger than that linking it to Nilo-Saharan. Moreover, Schadeberg argues that the links between Kadu and Nilo-Saharan are 'in no way inferior to those that have been adduced for a number of other language groups', and therefore tentatively concludes that Kadu 'may be included in the search for substantial Nilo-Saharan comparisons' (Schadeberg 1981:304). Following Schadeberg, most scholars now place Kadu within Nilo-Saharan (Dimmendaal 1987; Bender 1996, 2000; Blench 2006).

Interestingly, whilst Blench puts Kadu in Nilo-Saharan and Ehret puts Kadu in Niger-Congo, both agree that there is conflicting evidence to be accounted for. Both suggest that the Kadu data lends weight to the idea of a historical connection between Nilo-Saharan and Niger-Congo, possibly even a "Niger-Saharan" superphylum (Blench 2006:114, Ehret 2000:236).

Finally, the most recent work in this area is that of Dimmendaal (2008, 2011), who suggests that the Kadu languages 'probably constitute an independent family' (Dimmendaal 2008:850).

Thus, when it comes to the question of whether the Kadu languages should be considered to belong to Niger-Congo or Nilo-Saharan, there are four logical possibilities: that Kadu is Niger-Congo, that it is Nilo-Saharan, that it is both Niger-Congo and Nilo-Saharan, or that it is neither. As summarised in **Table *1***, all four possibilities have their advocates.

Affiliation	**Proposer(s)**
Niger-Congo/Kordofanian	Greenberg (1950, 1963) Ehret (2000)
Nilo-Saharan	Schadeberg (1981) Dimmendaal (1987) Bender (1996, 2000) Blench (2006)
Both/'Niger-Saharan'	Blench (2006) (Ehret (2000))
Neither (Independent Family)	Dimmendaal (2008, 2011)

Table 1: *Proposed genetic affiliations of the Kadu languages*

Against the background of this debate, I present novel morphosyntactic data from Katcha showing that the number and gender systems display properties reminiscent of both Niger-Congo and Nilo-Saharan.[1] Given the complexity of the data, it is not surprising that different researchers have interpreted them differently. There is a general correlation between the way the morphosyntactic facts have been interpreted and the assumptions about the language's genetic affiliation prevalent at the time. Thus, following Greenberg's (1950) classification of the Kadu languages as Kordofanian, older descriptions of Katcha (Stevenson 1956-57; Tucker & Bryan 1966) attempted to demonstrate Niger-Congo-style noun classes based on number prefixes. Following Schadeberg's (1981) questioning of this assumption, more recent work (Dimmendaal 2000; Gilley 2013) has sought to demonstrate that Katcha displays a tripartite system more typical of Nilo-Saharan. In section 2, I outline the system of number marking, demonstrating that number is explicitly marked on nouns by means of singulative and plurative affixes and that there are elements of both Niger-Congo and Nilo-Saharan-style systems present in Katcha. Section 3 outlines the system of gender agreement: nouns in Katcha belong to one of three genders; unlike number, gender is a covert inflectional category in Katcha which only manifests itself through agreement. The following two sections discuss two unusual phenomena arising from the interaction of number and gender. In section 4, I demonstrate that the gender of a noun is assigned to it by its number marking prefix and that this can lead to nouns switching gender

[1] The data in this paper comes primarily from fieldwork with Katcha speakers in Khartoum, Sudan, between October 2012 and May 2013. Some textual examples are taken from the draft version of the Katcha New Testament (such examples are cited by giving the Biblical verse reference); I am grateful to the ECS Translation and Literacy Department for allowing me access to this valuable unpublished source. I would also like to thank the anonymous reviewers whose comments have contributed to this paper; the shortcomings, of course, remain my own.

between their singular and plural forms: a type of gender polarity. In section 5, I suggest that, while the first two genders may be thought of uncontroversially as 'masculine' and 'feminine', the third gender has a strong connection with the notion of plurality and may arguably be thought of as a 'plural' gender.

Intriguingly, given the controversy over Kadu's genetic affiliation, these last two phenomena-gender polarity and the existence of a 'plural' gender - are typologically rare but both have been argued to exist in certain Afro-Asiatic languages, specifically Cushitic. This is something of a surprise; with the partial exception of Blench (2006), no previous research has suggested a relationship between Kadu and the Afro-Asiatic phylum. Such unexpected typological similarities are worth noting because the existence of shared typological phenomena in two languages may be an indication of a diachronic connection (Bickel 2007, 2011). Of course, isolated typological similarities alone do not constitute proof that a language belongs to a particular phylum and it may indeed be that the data discussed here prove to be nothing other than an isolated case. The goal of this paper is not therefore to use the data presented here to make any claims about the genetic affiliation of Kadu. Rather, the paper aims to situate this data within the context of the debate over Kadu's genetic classification: in addition to the expected typological similarities between Katcha and phenomena found in Nilo-Saharan and Niger-Congo languages, some of the phenomena found in Katcha are, surprisingly, more reminiscent of certain Afro-Asiatic languages of the region.

2. Number

Number is marked on Katcha nouns by affixes marking either singular or plural. Most of these are prefixes, and they are relatively numerous. In some cases, singular and plural prefixes occur in pairs, and in a subset of these it is possible to see a semantic connection between the nouns they inflect. In this way, Katcha nouns superficially resemble Kordofanian nouns with their noun-class prefixes; older studies of Katcha (Stevenson 1941, 1956-57; Tucker & Bryan 1966) frame their presentation of nouns in these terms. Stevenson issues two important caveats: first, that the agreement system in Katcha is quite different to those found in the Kordofanian languages (see section 3), and second, that 'most of the noun classes possess either a singular or a plural prefix, but not both' (Stevenson 1941:26).

More recent work (Dimmendaal 2000; Gilley 2013) has argued that Katcha displays a system more typical of Nilo-Saharan nouns: a tripartite system consisting of 'singulative marking, plural marking, and a replacement pattern' (Dimmendaal 2000:214). That is to say, there are nouns whose plural form is unmarked and whose singular is marked morphologically; there are nouns where the unmarked form is the singular and it is the plural form which is morphologically marked; finally, there are nouns where both singular and plural carry morphological inflection. Following terminology suggested in Dimmendaal (1983), I refer to morphology of the first type as *singulative*, to the second type as *plurative* and to the third type as *replacive*. To avoid ambiguity, when referring to the number of the referent (as opposed to the morphology), I use the terms *semantically singular* or *semantically plural*.[2]

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[2] The terms *semantically singular* and *semantically plural* are used informally, and I have not attempted to define them outside of the number marking system: a referent is semantically singular because it has

Gilley's (2013) choice of presentation method is particularly interesting with regard to the Niger-Congo/Nilo-Saharan debate. She follows Dimmendaal (2000) in arguing that Katcha does indeed follow a Nilo-Saharan-style tripartite number marking system, but at the same time groups nouns into classes according to their singulative/plurative-affix pairs (allowing for one member of the pair to be zero-marked). She therefore follows Stevenson in suggesting that there is a *∅-/nV-* class, a *∅-/kV-* class, a *t-/∅-* class, etc.

In this section, the organization of the data focuses on the individual affixes rather than on any patterns that can be drawn from their pairings. This is because, as will be seen below, there is a fair amount of 'mix-and-matching' when it comes to the replacive nouns (those inflecting with both a singulative and a plurative prefix). Also, it will be shown in section 4 that it is the individual affixes which are relevant to agreement in Katcha, and not the affix-pair 'classes'. The plurative affixes are introduced first, followed by the singulative affixes and then the replacive affixes.[3]

2.1 Plurative affixes. The most common plurative affixes are prefixes /nV-/, /kV-/, and /mV-/, where the prefix vowel is a copy of the first vowel of the root, and suffix /-iní/.[4] There are other prefixes, but these appear to be mainly variations of those given here, such as /nVV-/ or /nVk-/. Some examples are given in (1).

(1)

	Unmarked form (semantically singular)	Affixed form (semantically plural)	Gloss
a.	kisíríndí	ni-kisíríndí	k.o. musical instrument
b.	ɲɔrɔɲɔrɔ́	nɔ-ɲɔ́rɔ́ɲɔrɔ́	k.o. spear
c.	ʈaŋká	ka-ʈaŋká	butterfly
d.	teːfe	ke-téːfê	friend
e.	kanʈá	ma-kanʈá	k.o. spear
f.	kúːfí	mʊ-kúːfí	stick
g.	kíbe	kɪbí-íní	goat
h.	kʊɓá	kʊɓʊ-ɪní	bone
i.	kɔlɔ	nɔ́-kɔ́lɔ̂	eagle
j.	teré	neke-teré	moon, month

singulative marking (in the case of a singulative or replacive noun) or because it is unmarked (in the case of a plurative noun) and likewise for semantically plural referents. In a sense then, these terms do not add a great deal other than as a device to ease presentation of the data in the current section. This is not a major issue as section 3 will argue that agreement is in fact based on morphosyntactic gender and not on number.

[3] Gilley (2013) presents a comprehensive morphophonological description of Katcha nouns, focusing on the number-marking affixes. Gilley's data, which was collected from Katcha speakers in Khartoum in 2006–2007, matches my own quite closely. In this section (particularly in sections 2.1 and 2.2) I therefore only briefly summarise the number-marking system and present a few representative nouns of each type. For further examples the interested reader may refer to Gilley's paper.

[4] Katcha marks number on nouns using prefixes almost exclusively, except for a small group of nouns which appear to form their plural using suffix /-iní/. This has been a puzzle for previous researchers, who have wondered whether there may be some other function for this morpheme (eg. Gilley 2013:518). Like them I cannot see anything obvious about this suffix which would make it anything other than a marker of plural for a small, closed set of nouns.

2.2 Singulative Affixes. The second major grouping of nouns are those whose unmarked form is plural and which form their singular by the addition of a prefix. As is common in Nilo-Saharan tripartite number-marking systems, nouns with singulative marking tend to be uncountable, mass, or collective nouns or those which are typically found in large numbers. Often the singulative form may mean "a piece of", "a drop of" etc. The most common singulative affixes are the prefixes /t-/, /ns-/, /n-/, /ntVN-/ and /ɓ-/. Some examples are given in (2).

(2)

	Affixed form (semantically singular)	Unmarked form (semantically plural)	Gloss
a.	tu-kubúppú	kubúppú	k.o. tree
b.	t-irippi	irippi	ball
c.	ns-ekeʈe	ekeʈe	wing
d.	ns-ɪkɪlí	ɪkɪlí	belt
e.	n-toːjo	toːjo	seed
f.	ntin-issî	issî	gun
g.	ntɔn-ɔːjɔ	ɔːjɔ	grass
h.	ɓɪ-kɪrĭːsí	kɪrĭːsí	tick
i.	ɓ-eléttê	eléttê	bat

2.3 Replacive Affixes. The third type of number marking in the tripartite system typical of Nilo-Saharan is replacive marking, where both semantically singular and semantically plural forms of a noun are marked by an affix. These are the nouns which most closely resemble those found in Kordofanian languages. If there is any evidence to be found of Niger-Congo-type noun-classes, it is likely to be found among these nouns, and in fact, there is some evidence of limited classification. Replacive nouns are not as common in Katcha as those which mark only plurative or singulative, but there are enough of them to be able to make generalizations.

Replacive prefixes *t-/k-*. List (3) shows a class of nouns with a clear semantic basis, referring only to humans (including the non-human 'angel'). These nouns take the singulative prefix *t-* and the plurative prefix *k-*. As can be seen in (3), the distinguishing morphological feature of nouns in this class is that they also have a separate feminine singular form derived by the addition of the pre-prefix *ma-*. This morpheme does not routinely get prefixed to other nouns, even where a male-female distinction might be semantically relevant (e.g. domestic animals). This group of nouns therefore represents something of a special case.

(3)

	Masculine singular	Feminine singular	Plural	Gloss
a.	t-atalá:ná	ma-t-atalá:ná	k-atalá:ná	'teacher'
b.	t-ataraɗa:na	ma-t-adaraɗa:na	k-ataraɗa:na	'tailor'
c.	t-aʈaŋká	unattested	k-aʈaŋká	'angel'
d.	ta-amasálá5	ma-t-amasálá	k-amasálá	'priest'

[5] It is unclear why the initial /a/ is lengthened in this example.

Replacive prefixes *s-/aŋ-*. Stevenson (1941:30) gives the pairing of *s-* (singular) and *aŋ-* (plural) as a semantic class referring to containers, though he says it is a small class and "tending to disappear" with *nV-* being used in the plural instead of *aŋ-*. Checking Stevenson's list with Katcha speakers, they only recognised or agreed with two of the nouns (4a–b). A further example which may be related to these is (c). In the latter case, the plurative prefix is again *aŋ-*, but the singulative prefix is *ns-*.

(4)

	Semantically singular form	Semantically plural form	Gloss
a.	s-éːɗé	aŋ-éːɗé	'water pot'
b.	s-ɔːrɔ́	aŋ-ɔːrɔ́	'grain basket'
c.	ns-eːra	aŋ-eːra	'fence'

There are two comments to make concerning these nouns. The first is that *both s-* and *aŋ-*are rare morphemes. Neither occur with any nouns other than those given in (4). Most notably, there are no (non-replacive) singulative nouns which take *s-* as the singulative prefix, and no (non-replacive) plurative nouns which take *aŋ-* as their plurative prefix. As discussed below, this is unusual.

Secondly, it would seem likely the *s-* and *aŋ-* prefixes are indeed in the process of disappearing from the language. Besides Stevenson's comment that plural *aŋ-* is being replaced by *nV-*, (4c) may be an indication that singulative *s-* is also disappearing and being replaced by *ns-*, a much more common prefix. Of course, this is speculation based on only one lexical item, but it is certainly plausible.[6]

Replacive marking using existing plurative/singulative prefixes. In the vast majority of cases, Katcha nouns with replacive number-marking use some combination of the plurative and singulative affixes seen in sections 2.1 and 2.2. The list in (5) gives some examples of replacive nouns. (This list is ordered by plurative prefix.)

[6] If this were a phonological change, i.e. a change in the form of a single prefix, it might be expected to have gone in the opposite direction with s- resulting from the loss of the nasal element. However, I take it to be a change at a morphological level, the replacement of one singulative prefix by a more common, more productive one. This assumption is supported by the fact that the two prefixes in question assign different genders, as discussed in section 4 below.

(5)

	Semantically singular form	Semantically plural form	Gloss
a.	m-ʊsúlá:ká	k-ʊsúulá:ká	fingernail, claw
b.	m-ʊtúkê:ɗe	k-ʊtúkê:ɗe	hoof
c.	m-ɔʈɔŋkɔ́:rɔ́	k-ɪʈɪŋkɔ́:rɔ́	elbow
d.	nt-ɔlɔntɔ	k-ɔlɔntɔ	feather
e.	t-ʊmmba	kʊb-ʊ́mmbá	cave
f.	n-tí:ɗo	mi-tí:ɗo	k.o. tree
g.	n-tíjje	mɪ-tíjje	k.o. tree
h.	ntun-u:fé	m-ú:fé	k.o. tree
i.	tɪŋ-kɪle	mɪ-kɪle	sorghum
j.	m-í:te	nik-í:té	ox
k.	m-ʊttó	nʊk-ʊttó	horse
l.	m-iri	nikíŋk-írî	deaf person
m.	mɓ-ɔrɔ	nɪkíŋk-ɔ́rɔ̂	nose

All of the plurative prefixes in (5) also occur in (1). In other words, all prefixes on semantically plural replacive nouns also occur as prefixes on plurative nouns. The only exception is *aɲ-*, which as noted above is very rare and probably in the process of disappearing.

Something very similar can be said for the semantically singular forms. The majority of the singulative prefixes in (5) also occur in (2). In other words, almost all prefixes on semantically singular replacive nouns also occur as prefixes on singulative nouns. The singulative prefix *s-* is an exception, but it is very rare and possibly in the process of disappearing.

The only singulative prefix in (5) which was not mentioned in section 2.2 is *m-*. This is notable as the only affix which occurs relatively commonly in replacive nouns but does not also occur as a singulative or plurative prefix in isolation. As noted for the 'human' noun-class above (and as discussed in more detail in sections 3 and 4), /m/ is a marker of feminine gender, so it is possible that singulative *m-* is derived from the reanalysis of a gender marker. Such a reanalysis would be most likely to occur on nouns which did not already have a singulative marker, i.e. plurative nouns, turning them into replacive nouns.[7]

The nouns in (5) do offer some indications that there may be more generalisations to be drawn with regard to particular pairs of prefixes and semantic groupings. For example, (a–c) all take singulative *m-* and plurative *k-* and all refer to certain types of body parts (Gilley (2013:514) suggests 'appendages'), while (f–h) all take singulative *nt-* and plurative *mV-* and all refer to types of trees. But regardless of any semantic links, it is not clear that the replacive prefixes should be thought of as occurring in pairs, as would be expected in a Niger-Congo noun class system. There are a large number of attested combinations with a good deal of 'mix-and-matching' (though some combinations are more common than others). For example, singulative *m-* occurs with plurative *nVk-* and also with plurative *k-*, while plurative *k-* occurs with singulative *t-*, *nt-* and *m-*. Moreover, if we consider Katcha number prefixes to indicate paired

[7] I have not investigated the origins of number prefixes in general, so this hypothesis on the origins of singulative *m-* should be considered purely speculative. Nonetheless, it is worthy of mention because, if correct, this speculation would explain why *m-* stands alone as the only prefix which occurs relatively commonly in replacive contexts but not in non-replacive ones.

classes, it would be necessary to posit a large number of classes with ∅-marking on one member of the pair. It is better to think of number prefixes in Katcha as a set of singulative prefixes and a set of plurative suffixes, with some nouns being inflected by both.

To Tucker & Bryan (1966:11), 'the multiplicity of Singular and Plural Affixes gives the impression of a Class system long since broken down.' The case of *s-*/*aɲ-*, a fixed pair of number-marking prefixes apparently in the process of being replaced by more productive singulative and plurative prefixes, might be an example of this. It should be noted though that Schadeberg (1981:304) contends that the absence of a noun class system in Kadu 'cannot easily be explained as a loss'.

Relatively few nouns display replacive morphology, so it is difficult to make strong generalisations. Nonetheless, the fact that the vast majority of the replacive prefixes also occur as plurative or singulative prefixes in non-replacive contexts and the fact that the replacive prefixes do not seem to be limited to specific pair combinations both suggest that replacive-marking nouns should not be thought of as a separate category of noun. Replacive nouns are simply nouns which happen to mark both number values morphologically rather than only one.[8]

2.4 Summary. Number marking on Katcha nouns shows an interesting mix of typically Niger-Congo and typically Nilo-Saharan attributes. There are some instances where number prefixes appear to occur in pairs, and in some of these cases there may also be some semantic commonality between the nouns. However, these cases are limited; in one case (the 'human' class) the nouns show atypical morphology with gender marking in addition to the number prefixes, and in at least one case (the 'containers' class) the prefixes appear to be in the process of being replaced. To this extent, Katcha does show some evidence of noun 'classes' signaled morphologically by pairs of prefixes. But although these replacive nouns may superficially resemble a Niger-Congo noun-class system, overall they are probably better thought of as words which happen to carry both singulative and plurative markers.

The majority of words in Katcha are marked in only one number. Although Stevenson (1941, 1956-57), Tucker & Bryan (1966) and even to some extent Gilley (2013) treat ∅- as a prefix participating in pairs of class-defining prefixes, this adds unwarranted complication, generating a large number of internally disparate 'classes'. The overall number marking system is better thought of as a Nilo-Saharan-style tripartite one, as argued by Dimmendaal (2000) and Gilley (2013). Prefixes are either singulative or plurative; some nouns take plurative prefixes, some take singulative prefixes and some take both. However, within this overall Nilo-Saharan-style system, the replacive nouns show some evidence of morphologically indicated and semantically based noun classes, which might be thought of as like those found in Niger-Congo. Perhaps the most important difference though, is that these 'classes' do *not* trigger gender agreement. The Katcha gender system is quite different, and to this we now turn.

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[8] A reviewer notes that replacement in Nilo-Saharan is particularly common with nouns derived from some other category. It is not obvious that many of the lexical items in (3-5) are derived nouns, but I have not studied derivational processes in depth. It must be left to future research to determine whether number marking (and gender assignment) in derived nouns follows a systematic pattern.

3. Gender

Gender agreement is a key feature of the Katcha noun phrase. Gender is not marked on nouns explicitly, but is shown by agreement via markers on noun phrase modifiers (possessives, relatives, demonstratives and attributive 'adjectives') and on verbs (subject agreement markers). These are given in **Table *2*** (along with the personal pronouns, which show gender overtly).

	Masculine	Feminine	'Neuter' (Tucker & Bryan 1966) 'Plural' (Waag 2017) 'Neuter/Plural' (Gilley 2013)
attributive (noun phrase modifiers)	j-	m-	n-
predicative (subject agreement markers)	∅	m-	k-
Personal pronouns	ɪʔɪ	ɔːkɔ	eːke

Table 2: *Gender agreement markers*

There are three possible agreement markers in each context but previous work on Katcha has been inconsistent as to the number of gender classes. Stevenson (1941, 1956-57) aims to provide only a description of the data and does not name the classes. He describes the agreement patterns and thereafter refers to the relevant nouns as being 'nouns of the first/second/third type'. Nonetheless, his description makes it clear that he perceives the three concord markers as marking three gender classes. On the basis of this data, Tucker & Bryan (1966) analyse Katcha as having three genders, which they name Masculine, Feminine and Neuter. More recently, however, Waag (2017) works on the assumption that Katcha nouns are divided into two singular gender classes and that the third concord marker reflects plural number, though it should be noted that a systematic study of gender lies outside the scope of her paper, which focuses on pronouns. The questionable status of the third class is exemplified by Gilley (2013:502) who states that 'Each word is either masculine, feminine or neuter/plural.' Again, a study of gender is not the focus of Gilley's paper and she does not therefore enter into any discussion of what is meant by 'neuter/plural'. The implication is that there is a degree of ambiguity here. It is therefore important to establish how many gender classes there are, before going on to see how number and gender interact.

In fact, there is little doubt that Katcha has an agreement system of three gender classes, not a system of two genders plus plural. Moreover, 'Masculine' and 'Feminine' are good names for the first two classes since animate males are always Masculine (6) and animate females are always Feminine (7). In many cases, an animate noun may fall into either the *j-* class or the *m-* class according to the sex of the individual referred to (8)-(9).

(6) ŋkɔ̂ːɗɔ́ **já** kúkkô
boar M.POSS Kuku
'Kuku's boar'

(7) kɔ́ːkɔ́rɔ́ **má** kúkkô
hen **F**.POSS Kuku
'Kuku's hen'

(8) lí **já** kúkkô
buffalo **M**.POSS Kuku
'Kuku's (male) buffalo'

(9) lí **má** kúkkô
buffalo **F**.POSS Kuku
'Kuku's (female) buffalo'

Inanimate nouns may belong to any of the three genders, irrespective of whether the noun is semantically singular (10)-(12) or semantically plural (13)-(15). For this reason, we may – for the moment – call the third class 'Neuter' to reflect the fact that it is a gender class (though we will see shortly that things are not quite so straightforward):

(10) karakanʈa **já** kúkkô
mushroom **M**.POSS Kuku
'Kuku's mushroom'

(11) ambâ **má** kúkkô
drum **F**.POSS Kuku
'Kuku's drum'

(12) kanʈá **ná** kúkkô
spear **N**.POSS Kuku
'Kuku's spear'

(13) irippi **já** kúkkô
balls **M**.POSS Kuku
'Kuku's balls'

(14) toːjo **má** kúkkô
seeds **F**.POSS Kuku
'Kuku's seeds'

(15) kisi **ná** kúkkô
beads **N**.POSS Kuku
'Kuku's beads'

Uncountable nouns can also belong to any of the three classes, providing more good evidence that Katcha agreement is based on three gender classes rather than two genders plus plural number. Uncountable nouns carry no number prefixes; neither semantic number nor

morphological number are relevant here. Yet there are nouns from all three of the gender classes in this group, as shown in (16).

(16)

	Noun	Gender	Gloss
a.	ɓîːti	Masc	water
b.	tuluːkû	Masc	heavy cloud
c.	ɓʊːjó	Fem	diarrhea
d.	tíkíːtí	Fem	yeast
e.	ísːî	Neuter	fire
f.	tamɓakáːrá	Neuter	white cloud, snow

On the basis of the data presented so far, there is little doubt that Katcha has three genders and that semantic number is not relevant to agreement.[9] This conclusion concurs with the findings of a number of previous researchers on Kadu languages. Reh, for example, describes Krongo as having 'weitgehend numerus-insensitiven Genera'[10] (Reh 1985:126), while Tucker and Bryan state that 'the Gender system cuts across Number'(Tucker & Bryan 1966:304). However, as noted above, other writers have taken gender in Katcha to be a system of two gender classes, plus plural agreement (Waag 2017) or have been non-committal in whether the third class marks neuter gender or plural number (Gilley 2013). The source of this confusion lies in the fact that Katcha nouns display a complex interaction between number and gender, which is discussed in the following two sections. In section 4, it is demonstrated that many Katcha nouns exhibit gender polarity, changing gender when they change number. Thus a change in number is often accompanied by a change in (gender) agreement. Moreover, in section 5, it is argued that the semantic basis of the third gender class in Katcha is *plural*. The confusion about whether the third agreement class represents a gender or plural is due to the fact that plural arguably *is* a gender.

4. Number marking and gender

It was demonstrated in section 3 that nominal agreement in Katcha is based on three gender classes and that semantic number is not relevant to agreement. However, this is only half the story. The nouns presented in (6-16) — some semantically singular, some semantically plural and some uncountable — are all morphologically unmarked for number. In such cases there is no

[9] This finding will be adjusted slightly in section 5 where, following Corbett (1991:225-260), it is noted that 'hybrid' nouns - those with a mismatch between syntactic and semantic gender - may in some contexts trigger semantic agreement rather than syntactic agreement. A reviewer points out that this possibility conceivably raises the danger of misidentifying the gender of a noun by mistaking semantic agreement for syntactic agreement. It does, but the danger is slight: I found speakers to be generally consistent about the agreement properties of nouns when elicited with minimal context, with any given noun triggering the same gender agreement in the various morphosyntactic contexts (possessors, demonstratives, subject markers, etc.). In natural texts, again as noted by Corbett, the alternative semantic agreement tends only to manifest in contexts where the agreeing morpheme is quite far removed from the head noun (example (31) below being an instance of this).

[10] 'largely number-insensitive genera'.

correlation between number and gender; the gender of any given noun is indeed insensitive to its number. However, when a noun carries morphological number marking, whether singulative or plurative, the number-marking affix determines its gender.

This can be demonstrated by looking at the gender properties of nouns which carry the number affixes given in section 2 above. The data are presented by number affix, and their gender class is noted. The gender of each noun was established by checking the gender agreement markers (as noted in **Table *2***) present on possessors (such as those given in (6-15)), on demonstratives (17), or on verbs (18).

(17) a. aʔa n-asáːsá [ɲɔrɔɲɔrɔ́ já]
1SG 1/2SG-want k.o.spear PROX.M
'I want this spear.'

b. aʔa n-iːtini [mʊrʊ mɔ́]
1SG 1/2SG-see rabbit PROX.F
'I see this rabbit.'

c. aʔa n-asáːsá [kânʈá nɔ́]
1SG 1/2SG-want k.o.spear PROX.N
'I want this spear.'

(18) a. miːte ∅-akú ɔ́ːjɔ́
ox 3M-eat grass
'The ox is eating grass.'

b. kɪbé m-akú ɔ́ːjɔ́
she.goat 3F-eat grass
'The goat is eating grass.'

c. kɪbɪ-ɪní k-akú ɔ́ːjɔ́
she.goat-PL 3N-eat grass
'The goats are eating grass.'

Ordering nouns by number affix makes it clear that for nouns which are marked for number, gender classification is a property of the affix and not the root. In each of the following data lists (19-27) the gender of the marked form is consistent for each affix. This has the further consequence that the gender of a noun in the plural often differs from that used in the singular, a type of gender polarity.

4.1 Plurative affixes. A number of plurative-marked nouns are given in (19-22). It can be seen that regardless of the gender of the unmarked (semantically singular) form of the verb, the gender of the marked form is determined by the plurative affix.

Plurative prefix /nV-/. For nouns which take the plurative prefix /nV-/, the unmarked form may come from either Masculine or Feminine class, but the marked form is always in the 'Neuter' class. Some examples are given in (19).

(19)

	Unmarked form (sg)	Gender	Prefixed form (pl)	Gender	Gloss
a.	kisíríndí	Masc	ni-kisíríndí	Neuter	k.o. musical instrument
b.	ɟónnô	Masc	no-ɟónnô	Neuter	necklace bead
c.	kerɗé	Fem	ne-kerɗé	Neuter	calabash plate
d.	ɲɔrɔɲɔrɔ́	Masc	nɔ-ɲɔ́rɔ́ɲɔrɔ́	Neuter	k.o. spear
e.	ɓuʈʈúlú	Masc	nŭ-ɓúʈʈúlú	Neuter	ground
f.	lamă:dʒá	Fem	nă:-lamă:dʒá	Neuter	ginding room
g.	kɔlɔ	Masc	nɔ̆:-kɔ́lɔ̂	Neuter	eagle
h.	urŭ:nú	Masc	nuk-urŭ:nú	Neuter	year, era
i.	teré	Masc	neke-teré	Neuter	moon, month
j.	karakanʈa	Masc	nak-kárákânʈa	Neuter	mushroom
k.	ú:tú	Masc	nuŋk-ú:tú	Neuter	head

Plurative prefix /kV-/. For nouns which take the plurative prefix /kV-/, the unmarked form may come from either Masculine or Feminine class, but the marked form is always in the 'Neuter' class. Some examples are given in (20).

(20)

	Unmarked form (sg)	Gender	Prefixed form (pl)	Gender	Gloss
a.	ʈɪnʈĭ	Masc	kɪ-ʈɪnʈĭ	Neuter	bell
b.	ʈaŋká	Fem	ka-ʈaŋká	Neuter	butterfly
c.	mɔŋŋɔ́	Fem	kɔ-mɔŋŋɔ́	Neuter	elephant
d.	te:fe	Masc	ke-té:fê	Neuter	friend
e.	ʈimbi	Masc	ki-ʈímbî	Neuter	cockerel
f.	ambâ	Fem	kab-ámbâ	Neuter	drum
g.	sɔrɔ	Masc *or* Fem	kɪsĭn-sɔ́rɔ̂	Neuter	blind person

Plurative suffix /-iní/. For nouns which take the plurative suffix /-iní/, the unmarked form may come from either Masculine or Feminine class, but the marked form is always in the 'Neuter' class. Some examples are given in (21).

(21)

	Unmarked form (sg)	Gender	Suffixed form (pl)	Gender	Gloss
a.	kɪbé	Fem	kɪbí-íní	Neuter	goat
b.	kʊβa	Masc	kʊβʊ-ɪní	Neuter	bone
c.	tɪrá	Masc *or* Fem	tɪ-ɪní[11]	Neuter	dog

When looking at the examples listed so far, it is easy to see one of the reasons that some authors assume the *n-* concord to be a marker of plural number. All of the plurative affixes given so far trigger a change from a singular noun which is either Masculine or Feminine to a plural noun which requires the /n-/ prefix on its modifier. Moreover, these affixes are the more productive ones, accounting for the vast majority of plurative-marked nouns.

Plurative prefix /mV-/. In contrast to the data presented above, nouns which take the plurative prefix /mV-/ do not require the third, 'Neuter', agreement; instead, the marked, plural form of the noun belongs to the /m-/ class, i.e. Feminine. The unmarked, singular nouns may come from any of the three classes. Some examples are given in (22).

(22)

	Unmarked form (sg)	Gender	Prefixed form (pl)	Gender	Gloss
a.	kaɳţá	Neuter	ma-kaɳţá	Fem	k.o. spear
b.	kŭːfî	Masc	mʊ-kúːfî	Fem	stick
c.	kʊlʊβá	Fem	mʊ-kʊlʊβá	Fem	knife
d.	kúɓɓô	Masc	mʊ-kúɓɓô	Fem	spoon

Summary. In summary, for nouns whose unmarked form is singular and which form their plural by means of a plurative affix: in the vast majority of cases, the unmarked (semantically singular) form belongs to either the Masculine or Feminine class, while the marked form belongs to the third class ('Neuter'). However, this is not the case for nouns whose plural is formed using the /mV-/ prefix.

4.2 Singulative prefixes. A similar pattern emerges for the singulative prefixes. It can be seen from the singulative-marked nouns in (23-25) that regardless of the gender of the unmarked (semantically plural) form of the verb, the gender of the marked form is determined by the singulative affix.

Singulative prefix /t-/. For nouns which take the singulative prefix /t-/, the unmarked form (that is, the plural form) may belong to any of the three gender classes, while the marked, singular, form belongs almost exclusively to the third gender class. Some examples are given in (23).

[11] There is clearly some suppletion in the stem in this example. I have nonetheless included it here since the change appears to be triggered by the addition of the /-iní/ suffix.

(23)

	Prefixed form (sg)	Gender	Unmarked form (pl)	Gender	Gloss
a.	tu-kubúppú	Neuter	kubúppú	Neuter	k.o. tree
b.	t-ukulumɓú	Neuter	ukulumɓú	Masc	wild gourd
c.	te-mereké	Neuter	mereké	Fem	sesame
d.	ta-maːka	Neuter	maːka	Fem	glue
e.	t-ɔnɔkɔ	Neuter	anɔkɔ	Masc	heart, breast
f.	t-irippi	Fem	irippi	Masc	ball
g.	tiŋ-kisi	Neuter	kisi	Neuter	bead
h.	tɔŋ-kɔnʈɔ	Neuter	kɔnʈɔ	Fem	perfume
i.	tɔnː-ɔlɔ	Neuter	ɔlɔ	Masc	fodder

There is one apparent exception to the general pattern in (23): /tirippi/ is Feminine in the singular despite being formed by means of the /t-/ singulative prefix. So far, this is the only example I have of a gender inconsistency within an "affix set" and constitutes something of an unexplained exception.

Singulative prefix /ns-/n-/ntVN-/. For nouns which take the singulative prefix /n-/ and its variants, the unmarked form (that is, the plural form) may belong to any of the three gender classes, while the marked, singular, form belongs exclusively to the 'Neuter' class. Some examples are given in (24).

(24)

	Prefixed form (sg)	Gender	Unmarked form (pl)	Gender	Gloss
a.	nt-oké	Neuter	oké	Masc	guinea fowl
b.	ns-ekeʈe	Neuter	ekeʈe	Masc	wing
c.	ns-ɪkɪlí	Neuter	ɪkɪlí	Masc	belt
d.	n-toːjo	Neuter	toːjo	Fem	seed
e.	ntin-isːî	Neuter	isːî	Neuter	gun[12]
f.	ntɔn-ɔːjɔ	Neuter	ɔːjɔ	Masc	grass

Singulative prefix /ɓ-/. For nouns which take the singulative prefix /ɓ-/, the unmarked form (that is, the plural form) is always Masculine. Only a few nouns take this prefix, and it may be purely a coincidence that all of these are Masculine in the plural, or it may be that this prefix only attaches to Masculine nouns. Either way, it is surely not a coincidence that the marked, singular, forms are once again all the same gender; in this case, Masculine. Examples are given in (25).

[12] The primary meaning of *isːî* is 'fire', which is an uncountable noun with no singulative/plurative morphology. It can also mean 'gunfire', which one might guess is also uncountable, though I have not checked this. It is obviously a short semantic extension from 'gunfire' to the countable plural 'guns', and thence to a singulative form.

(25)

	Prefixed form (sg)	Gender	Unmarked form (pl)	Gender	Gloss
a.	ɓɪ-kɪrǐ:sí	Masc	kɪrǐ:sí	Masc	tick
b.	ɓ-ŏ:	Masc	ŏ:	Masc	bear
c.	ɓ-eléttê	Masc	eléttê	Masc	bat
d.	ɓ-ă:já	Masc	ă:ja	Masc	wild cat

Summary. In summary, for nouns whose unmarked form is plural and which form their singular by means of an singulative affix: the unmarked (plural) form may belong to any agreement class, while the agreement class of the marked (singular) form is determined by the singulative prefix. As is the case for plurative-marked nouns, in the majority of cases, the marked singular form belongs to the 'Neuter' class. However, this is not the case for relatively small number of nouns whose singular is formed using the prefix /ɓ-/.

Considering both plurative and singulative nouns together we can summarise by saying that the gender of an unmarked form (whether semantically singular or semantically plural) is lexically determined and may belong to any of the three gender classes, while the gender of the marked form (whether semantically singular or semantically plural) is determined by the prefix. In the majority of cases, the gender of the marked form is the third gender, 'Neuter', so it may be that this can be described as a default gender. However, certain number affixes (plurative /m-/ and singulative /ɓ-/) assign their nouns to other gender classes.

4.3 Replacive marking. In section 2.3 it was suggested that the replacive affixes are simply further examples of the normal singulative and plurative affixes which happen to be used in combination. If this is true, it is to be expected that replacive affixes will determine the gender of their nouns in just the same way as non-replacive affixes do. Moreover, it should also be expected that any given affix will assign the same gender to a noun whether or not it is used replacively. And this is what we find (with the caveat that replacive nouns are much less common than singulative or plurative nouns and therefore any conclusions are somewhat tentative). It can easily be demonstrated by taking the replacive nouns given in (4–5) and sorting them by prefix.

The table in (26) lists these nouns sorted by their plurative prefix. It can be seen that in each case the gender of the semantically plural noun is the same as for non-replacive nouns marked with these same plurative prefixes: In (a-d), where the plurative prefix is *nV-* (or variants thereof), the gender of the nouns is Neuter, just as was the case in (19); in (e–i), where the plurative prefix is *kV-* (or variants thereof), the gender of the nouns is Neuter, just as in (20); in (j–m), where the plurative prefix is *mV-*, the gender of the nouns is Feminine, just as in (22). The prefix *ąɲ-* (n–p) does not exist as a plurative prefix in a non-replacive context but, like all other number affixes, it determines the gender of the noun consistently (in this case, Masculine).

(26)

	Singular form	**Gender**	**Plural form**	**Gender**	**Gloss**
a.	m-íːte	Masc	nĭk-íːte	Neuter	ox
b.	m-ʊttó	Masc	nʊk-ʊttó	Neuter	horse
c.	m-iri	Masc *or* Fem	nikíŋk-írî	Neuter	deaf person
d.	mɓ-ɔrɔ	Fem	nɪkíŋk-ɔ́rɔ̂	Neuter	nose
e.	t-ʊmmba	Fem	kʊb-ʊmmba	Neuter	cave
f.	nt-ɔlɔntɔ	Neuter	k-ɔlɔntɔ	Neuter	feather
g.	m-ʊsúláːká	Fem	k-ʊsúláːká	Neuter	fingernail, claw
h.	m-ʊtúkéːɗe	Fem	k-ʊtúkéːɗe	Neuter	hoof
i.	m-ɔʈɔŋkɔ́ːrɔ́	Fem	k-ɪʈɪŋkɔ́ːrɔ́	Neuter	elbow
j.	n-tíːɗo	Neuter	mi-tíːɗo	Fem	k.o. tree
k.	n-tíjje	Neuter	mɪ-tíjje	Fem	k.o. tree
l.	ntun-uːfé	Neuter	m-úːfé	Fem	k.o. tree
m.	tɪŋ-kɪle	Neuter	mɪ-kɪle	Fem	sorghum
n.	s-eːɗe	Masc	aɲ-eːɗe	Masc	water pot
o.	s-ɔːrɔ	Masc	aɲ-ɔːrɔ	Masc	grain basket
p.	ns-eːra	Neuter	aɲ-eːra	Masc	fence

The same is seen to be true for semantically singular replacive nouns. The nouns in (26) are listed again in (27), but this time sorted by the singulative prefix. It can be seen that in each case the gender of the semantically singular noun is the same as for non-replacive nouns marked with these same singulative prefixes, although in the first case, that of singulative *t-* (or variants thereof), the correspondence is not clear-cut. I have found only two examples of replacive nouns with singulative prefix *t-*, given in (a–b), one Neuter and one Feminine. The sample is therefore too small to draw any real conclusion. Nonetheless, it was noted in (23) that nouns with singulative *t-* carry Neuter gender, with one apparent unexplained exception, which was Feminine. We can at least say, then, that the gender of the nouns in (27a-b) do not contradict the data given in (23). In (27c–g), where the singulative prefix is *nt-* (or variants thereof), we are on more solid ground: the gender of the nouns is Neuter, just as in (24). The singulative prefixes *mV-* (h–k) and *s-* (l–m) do not exist as singulative prefixes in a non-replacive context but, like all other number affixes (with the possible exception of singulative *t-* noted above), they determine the gender of the nouns consistently (Feminine and Masculine, respectively). The nouns in (n–p) refer to animate males and so they have Masculine gender (as noted in section 3), despite having the *mV-* singulative prefix which would otherwise trigger Feminine agreement.

(26)

	Singular form	Gender	Plural form	Gender	Gloss
a.	tɪŋ-kɪle	Neuter	mɪ-kɪle	Fem	sorghum
b.	t-ʊmmba	Fem	kʊb-ʊmmba	Neuter	cave
c.	nt-ɔlɔntɔ	Neuter	k-ɔlɔntɔ	Neuter	feather
d.	n-tíːɗo	Neuter	mi-tíːɗo	Fem	k.o. tree
e.	n-tíjje	Neuter	mɪ-tíjje	Fem	k.o. tree
f.	ntun-uːfé	Neuter	m-úːfé	Fem	k.o. tree
g.	ns-eːra	Neuter	aɲ-eːra	Masc	fence
h.	m-ʊsúláːká	Fem	k-ʊsúláːká	Neuter	fingernail, claw
i.	m-ʊtúkéːɗe	Fem	k-ʊtúkéːɗe	Neuter	hoof
j.	mɓ-ɔrɔ	Fem	nɪkíŋk-ɔ́rɔ̂	Neuter	nose
k.	m-ɔʈɔŋkɔ́ːrɔ́	Fem	k-ɪʈɪŋkɔ́ːrɔ́	Neuter	elbow
l.	s-eːɗe	Masc	aɲ-eːɗe	Masc	water pot
m.	s-ɔːrɔ	Masc	aɲ-ɔːrɔ	Masc	grain basket
n.	m-íːte	Masc	nɨ̈k-íːte	Neuter	ox
o.	m-ʊttú	Masc	nʊk-ʊttú	Neuter	horse
p.	m-iri	Masc *or* Fem	nikíŋk-írî	Neuter	deaf person

Replacive nouns are less common than singulative or plurative nouns, so the patterns identified here must treated as somewhat tentative. Nonetheless, taking this data together with the plurative and singulative data given in Sections 4.1 and 4.2, it is clear that the gender of a noun is determined quite consistently by its number affix. **Table *3*** summarizes this by listing the singulative affixes according to the gender that they assign to their noun. [13] The affixes are listed in two columns, those which attach to singulative nouns (i.e. nouns where the plural is unmarked) and those which attach to replacive nouns (i.e. an affix occurs on the plural also). **Table *4*** does the same for plurative affixes. The majority of affixes occur in both columns, confirming that (at least the majority of) replacive nouns are not a special category forming paired noun-classes, but simply nouns where both semantically singular and semantically plural are marked using the ordinary singulative and plurative affixes.

	Singulative	Replacive
Masculine	ɓ-	s-
Feminine	(t-)	(t-) m- (mɓ-)
Neuter	nt- ns- n- ntVN- t- tVN-	nt- ns- n- ntVN- (tɪŋ-)

Table 3: *Singulative number affixes in Katcha*

[13] Parentheses indicate that the affix occurs in only one or two examples in my dataset.

	Plurative	Replacive
Masculine		aɲ-
Feminine	mV-	mV-
Neuter	nV- nVk- nVNk- kV- kVb- (kɪsɪn-) -ɪní	nVk- (nɪkɪNk-) kV- kVb-

Table 4: *Plurative number affixes in Katcha*

4.4 Summary. It was demonstrated in section 3 that Katcha has three gender classes and that the *semantic* number of an unmarked noun is not generally relevant to its gender agreement properties (other than in the case of male/female animate referents). However, it has been shown in this section that *morphological* number is very relevant to gender, since the number-marking affix on a noun assigns it gender. For nouns which are morphologically marked for number, gender classification is a property of the number affix and not of the root noun.

Because a noun's gender is determined by its number-marking affix, this may result in differing gender between semantically singular and semantically plural forms of the same noun. This phenomenon, known as polarity (following Meinhof (1910:135-6)), is well attested in the Cushitic and Semitic branches of Afroasiatic. Dimmendaal (1987:172) speculates whether polarity in Krongo may indicate earlier contact between the Kadu languages and other language families. Whatever the origins, in Katcha a noun's gender in the singular may differ from its gender in the plural and this is determined by the singulative or plurative affix. There is therefore a very clear interaction between number marking and nominal gender.

5. Plurality as the semantic basis of the third gender

A second aspect of the interaction between number and gender is seen when we consider the semantic basis of the third gender class. As discussed in section 3, the third concord agreement marker (/n/ for nominal modifiers, /k/for verbal subject agreement markers) does not mark plural number, but gender. Up to this point, I have followed Tucker & Bryan (1966) in referring to this third class as 'Neuter', reflecting the fact that it is part of a three-way gender system along with the classes of 'Masculine' and 'Feminine'. However, to refer to this class as 'neuter' is to miss out on the importance of its connection with plural number.

The connection between the third agreement class and plurality is sufficiently close that some research on Katcha grammar (eg. Waag 2017) has assumed that the third concord agreement marker marks plural number rather than a third gender. That people make this assumption would be surprising if there were no reason for it. But in fact, there are some very good reasons for it and in this section, I suggest that the best way of accounting for this confusion is to think of the third agreement class as a kind of 'plural gender'. The key insight here is that the third gender has a semantic basis in the notion of 'plural'. Assuming with Corbett (1991:8) that 'there is always a semantic core to the assignment system', (in other words, gender classes always have a semantic basis), I suggest that the 'semantic core' of the third gender is purality. This does not mean that the referents of all nouns of this class are numerically plural, any more than the

referents of all masculine nouns are biologically male. It does mean, however, that the third gender in Katcha is more than simply the residue of non-masculine, non-feminine nouns, which is the definition of neuter in most three-gender languages. Rather, the third agreement class also has a defining feature, namely, plural.

5.1 'Plural gender' in Katcha. The link between the third gender and plurality is a structural one: just as a noun of the first class triggers the same agreement as one referring to an animate male, and a noun of the second class triggers the same agreement as one referring to an animate female, so a noun of the third class triggers the same agreement as one referring to an animate plural. Thus in (28a) the pronoun *éːke* refers to the third-gender noun *kanʈá*, 'spear', while in (28b) it refers to the plural human referent *kókkó nca kákká*.

(28) a. n-ici ɔʔɔ kanʈá ? íː, aʔa n-ici **éːke**
1/2S-see 2S spear ? yes 1S 1/2S-see **3PL**
'Do you see the spear? Yes, I see it.'

b. n-ici ɔʔɔ kókkó nca kákká ? íː, aʔa n-ici **éːke**
1/2S-see 2S Kuku ACCOMP Kaka ? yes,1S 1/2S-see **3PL**
'Do you see Kuku and Kaka? Yes, I see them.'

The same is true of nominal modifiers such as relative clauses. In (29a) the morphemes which mark the relative clause are *ná…nɔ́*, agreeing with the third-gender noun *kanʈá*; in (29b) the same relative markers are used in agreement with the plural noun phrase *jakuːb nca juhana*.

(29) a. kanʈá **ná** maːla **nɔ́** k-ɔʈɔŋkɔrɔ
spear **REL.PL** be.brown **REL.PL** PL-long
'The brown spear is long.'

b. A Yakuub nja Yühanna,… no linggo nja iini no
a jakuːb nca juhana, **na** lɪŋkɔ nca ɪːnɪ **nɔ**
SUBJ Jacob ACCOMP John, **REL.PL** work ACCOMP 3M **REL.PL**
'James and John, who worked with him' (Luke 5.10)

Finally, the same holds for predicates. In (29a), repeated with the verbal agreement morpheme highlighted as (30a), the subject agreement marker on the verb is /k/, agreeing with the third-gender noun *kanʈá*; in (30b) the verb also carries the subject agreement marker /k/, agreeing with the plural subject *katalaːtene*.

(30) a. kanʈá ná maːla nɔ́ **k**-ɔʈɔŋkɔrɔ
spear REL.PL be.brown REL.PL **PL**-long
'The brown spear is long.'

b. katalaadene nüüdü kagu eema kooye
k-atalaːtene nu-utu k-akʊ eːma k-ɔːje
PL-disciple POSS.PL-2SG **PL**-eat things **PL**-drink
'your disciples eat and drink' (Luke 5.33)

The most straightforward analysis of these facts is obtained by assuming that the third class of agreement is always gender agreement. There are three genders in Katcha. To a large extent, number is irrelevant: nouns may belong to any of the three gender classes, regardless of semantic number. However, there is still a special relationship between the third gender and plural number. Co-ordinate referents, as in (28b–29b), take third gender agreement, as do semantically plural referents (where there is no conflicting linguistic antecedent, as discussed in regard to (31) below). This is an important fact which is missed if we think of the third gender as 'Neuter'. It more closely captures the agreement facts to consider this third gender as *Plural*, as long as it is understood that this is a grammaticalised version of Plural, not necessarily correlating to semantic number.

An alternative explanation of the data in (28–30) might be to dismiss the morphological unity between the third gender and plural number as mere homophony. However, this turns out to be unsatisfactory. It was shown in section 3 that the gender class a noun belongs to is not a reflection of its semantic number. Most semantically plural nouns trigger the third agreement pattern, but there are some which trigger Masculine or Feminine agreement; likewise, semantically singular nouns may trigger any of the three patterns. To suggest that many, but not all, plural nouns require agreement with their number rather than their gender significantly complicates the picture, and causes a suspicious duplication of classes. As summarised in **Table *5***, there would be semantically singular nouns taking Masculine, Feminine and Neuter agreements, there would be semantically plural nouns taking Masculine and Feminine agreements and there would be semantically plural nouns triggering number agreement instead of gender agreement. There might also be semantically plural nouns which take Neuter agreement, but since these would be homophonous with the semantically plural nouns taking plural number agreement, there would be no way to know. Moreover, there is no evidence that semantically plural nouns which require gender (i.e., Masculine or Feminine) agreement should be treated as special cases.

	Masculine	**Feminine**	**Neuter**	**Plural**
Semantically Singular	j-	m-	n-	
Semantically Plural	j-	m-	?	n-

Table 5: *A possible distribution of attributive agreement markers*

Assuming that the agreement in examples (28b–30b) is agreement with plural number therefore leads to an analysis that is unnecessarily complex. Far simpler is to assume that there are three genders of equal status in Katcha, as summarised in **Table *6***

Gender	Masculine	Feminine	Plural
	j-	m-	n-

Table 6: *Attributive agreement markers in Katcha*

The incorporation of Plural into the gender system may cause mismatches between the syntactic gender of a lexeme and its semantic number, leading to some variation in agreement behaviour. In (31), for example, *la:lá*, 'boys' is Masculine gender, but has plural semantic number. Both masculine and plural agreement are attested.

(31) la:lá ∅-ánná ká ɗí j-íŋkɔʈɔ́ já, **k**-ataɓa:ká
boys **3M**.stay LOC house REL.M-be.one REL.M **PL**-be.ten
'There were ten boys who lived in the same house.'
(Lit. some boys lived in one house, they were ten)

The verb, *ánná*, shows Masculine agreement, agreeing with the syntactic gender of its subject, *la:lá*. In the following clause where the subject is not overt (and through the rest of the text) the verb shows Plural agreement, agreeing with the semantic number of the noun's referent. Note that there is no 'Neuter' noun to act as an antecedent for the subject agreement marker on the second verb; in this case the agreement is clearly with the plural number. Corbett (1991:225-260) describes nouns with this kind of variable agreement as 'hybrid' nouns. He posits an agreement hierarchy according to which certain types of agreeing morphemes (in Corbett's terminology, 'agreement targets') are more likely to agree with the syntactic gender of their controller, while others are more likely to agree with its semantic gender. He also notes that,

> For any particular target type, the further it is removed from its controller, the greater the likelihood of semantic agreement (Corbett 1991:240).

It seems that something like this is what is happening in (31). The subject agreement marker in the same clause as the hybrid noun agrees with its syntactic gender (Masculine), while the subject agreement marker in the later clause agrees with its semantic number (Plural).[14]

There is potential confusion in naming this gender class *Plural* and for practical reasons it may be that an alternative name would ideally be found. Nonetheless, thinking of this gender class as plural fits the agreement facts of Katcha and is logical. The third gender class in Katcha is not simply neuter, but has a clear link to the concept of plurality. To name this gender class *Plural* is therefore merely an extension of the same class-naming convention which grammarians have followed for the last two millennia: there are three gender classes in Katcha; animate males generally belong to the first class so we may refer to it as *Masculine*; animate females generally belong to the second class, so we may refer to it as *Feminine*; animate plurals generally belong to the third class, so we may refer to it as *Plural*.

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[14] It could be argued that masculinity is as salient a feature of a group of boys as plurality. I have therefore stopped short of suggesting that in the case of *la:lá*, Plural is the word's 'semantic gender', though this would certainly fit with Corbett's hypothesis. It may be that the non-local agreement in (31) is actually with number, rather than 'semantic gender'. Nonetheless, it is clear that the local agreement is with the word's syntactic gender, while the more distant agreement is more semantically based. In the case of *í:já*, 'women', whose syntactic gender is Plural, there is no such gender mis-match: both local and non-local agreeing morphemes show plural agreement. It would be instructive to see what happens in the case of a semantically singular noun with Plural syntactic gender, such as *kanʈá*, 'spear': local agreement is always with the syntactic gender (Plural) as expected, but I do not have data on non-local agreement.

5.2 Plural gender in Cushitic languages. Katcha may be analysed as having a system of three genders, based around the features of Masculine, Feminine and Plural. Such a system is typologically unusual, but it is not totally unattested. Gender systems like this have been argued to exist in several languages in North Eastern Africa. Interestingly, these languages are neither Niger-Congo nor Nilo-Saharan (the two families to which Kadu has been ascribed in the past), but are from the Cushitic family of Afro-Asiatic:

> In contrast to other languages that have three-way gender distinction systems, this third value is not neuter in Cushitic. In terms of agreement, this third gender value requires the same agreement pattern as the third person plural. As a result, it is called "plural" gender in many studies of Cushitic languages (Tsegaye et al. 2013:191).

Languages where plural gender has been argued to exist include Bayso (Hayward 1979), Arbore (Hayward 1984), Iraqw (Mous 1993, 2008) and Konso (Orkaydo 2013; Tsegaye et al. 2013). The analysis of Plural as a gender is not without controversy. Alternative analyses have been proposed (e.g. Corbett & Hayward (1987), Corbett (2012:224-233) for Bayso), and the exclusion on principle of plural from the gender system has been discussed (see Mous (2008) and Corbett (2012:223-263) for opposing arguments).

Whatever analysis one offers for such data, there is a tradition among Cushiticists of describing gender in these terms. From a typological point of view, the interesting facts are that data very similar to those presented here are found in some Cushitic languages and that, to my knowledge, Katcha is the first language where such phenomena have been recorded outside Cushitic.

6. Conclusion

Nominal morphology and classification interact in Katcha in ways which arguably weaken the distinction between the categories of number and gender and which reflect ongoing questions over the genetic affiliation of the Kadu languages.

The morphology of nouns is based on number, with a tripartite system reminiscent of that found in some Nilo-Saharan (particularly Nilotic) languages. Katcha nouns show number by way of affixes, the majority of nouns taking either singulative affixes or plurative affixes. There is a third type of noun which takes both singulative and plurative affixes ('replacive'). Within the replacive nouns there is, to a limited extent, a tendency for certain singulative affixes to be paired with certain plurative affixes, possibly according to the semantics of the noun. In this respect, the nominal morphology is also reminiscent of the Niger-Congo noun classes of Katcha's Kordofanian neighbours. However, these pairs do not form agreement classes. Rather, the interaction between morphology and classification comes from the fact that individual affixes determine agreement. For nouns that are morphologically marked for number, gender classification is a property of the number affix, not the root noun. This may mean that the gender of a semantically singular noun differs from its gender when semantically plural, something which is associated with the third language phylum in the region, Afro-Asiatic.

Katcha has three gender classes, which can be described as being based around the semantic notions of *masculine*, *feminine* and *plural*. The agreement patterns required by nouns of the masculine class are the same as the third person masculine, the agreement patterns required by

nouns of the feminine class are the same as the third person feminine and the agreement patterns required by nouns of the plural class are the same as the third person plural. The assignment of gender to nouns may be summarized as follows:

1. Animate nouns — Nouns referring to males are generally masculine, nouns referring to females are generally feminine and nouns referring to more than one individual are generally plural.
2. Non-animate, numerically unmarked nouns — May belong to any gender class. There are no obvious semantic gender assignment rules, though it may be that further research might reveal more systematicity.
3. Numerically marked nouns — Gender class is assigned by the singulative or plurative affix.

The notion of plural as a value of the gender feature is controversial but it has been posited for a number of languages within the Cushitic branch of Afro-Asiatic.

The complex interaction between the categories of number and gender in Katcha is interesting in its own right. But it is particularly interesting in the context of the question of the genetic lineage of the Kadu languages. Typological phenomena alone do not constitute proof that a language belongs to a particular phylum, but it is notable that Katcha nominal morphology and classification shows characteristics of all three of the major language phyla in the region. Whether these characteristics were borrowed or inherited, it is little wonder that the affiliation of this language family has been a matter of ongoing debate.

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