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Form and meaning in Fulfulde: a morphophonological study of Maasinankoore

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Chapter seven

The noun classes

7.1 THE SEMANTIC PRINCIPLES OF NOMINAL CLASSIFICATION

The nouns in Fulfulde are subdivided into twenty or more noun classes. The grouping of nouns into classes is a form of categorization. The semantic principles which underlie the categorization of the nouns are discussed in sections 7.1.1 to 7.1.3. This introductory section defines the noun classes formally.

A noun class is morphologically signalled by the form of the class marker that occurs as a suffix on most nouns. A noun class is syntactically defined by the use of the same concord as an anaphoric marker. The number of classes varies from dialect to dialect. The Maasina dialect has twenty-two classes (Tioulenta 1991:171). The Gombe dialect has twenty-five classes (Arnott 1970a:75). The following examples show nouns in all twenty-two classes of the Maasina dialect. The boundary between the noun stem and the class suffix is indicated by a hyphen. The concord form that follows the noun is the definite article.

Examples of the classification of nouns:

		class
nɛd-dɔ ʔɔ	‘the person’	'O
yim-ɓe ɓe	‘the people’	'BE
ɓiŋ-ⁿgel ⁿ gel	‘the little child’	NGEL
ɓik-koy koy	‘the little children’	KOY
kɔs-am ɗam	‘the milk’	'DAM
kɔs-al kal	‘the little bit of milk’	KAL
haay-rɛ ⁿ de	‘the stone/rock’	NDE
ⁿgaa-ri ⁿ di	‘the bull’	NDI
saw-ru ⁿ du	‘the staff’	NDU
ɲiiw-a ba	‘the elephant’	BA
nag-ge ⁿ ge	‘the cow’	NGE
fad-ɔ ⁿ gɔ	‘the sandal’	NGO
ⁿguu-gu ⁿ gu	‘the clitoris’	NGU
cɔf-al ⁿ gal	‘the chicken’	NGAL
laaw-ol ⁿ gol	‘the road’	NGOL
laan-a ka	‘the boat’	KA
lek-ki ki	‘the tree’	KI
hud-ɔ kɔ	‘the grass’	KO
dammul-ol kol	‘the lamb or kid’	KOL
god-ɗum ɗum	‘the other one’	'DUM
kull-ɛ ɗe	‘the things’	'DE
daabaa-ji ɗi	‘the animals’	'DI

The concord is usually of the same class as the class suffix. Sometimes the class of the concord is not identical to the class of the suffix. A shift in concord class (often due to semantic reanalysis of the content of the suffix class) can be the cause of this difference. A small number of nouns does not have a suffix, but these nouns are referred to with the concord of one of the noun classes.

Examples of nouns whose suffix class differs from the concord class:

		suffix class	concord class
daaba ʔɔ	'the animal'	-	'O
mɔɔntɔrɔ ʔɔ	'the watch'	-	'O
kɔrs-a ʔɔ	'the affection'	KA	'O
ɓoŋ-ⁿgu ʔɔ	'the mosquito'	NGU	'O
yaŋ-ⁿge ʔɔ	'the ceremony'	NGE	'O

The concord defines the synchronic class affiliation of a noun, not the class suffix.

7.1.1 NUMBER

Noun classes contain information about the semantic category of number. A noun class indicates whether the noun is singular, plural, or uncountable (a collective or mass) (cf. Dimmendaal 1982). With regard to number, the noun classes of the Fulfulde of Maasina can be divided into three semantic categories. There are fourteen noun classes in which the majority of words are nouns which express singular concepts. There are four plural classes. Four noun classes are not specified for number because they group mainly mass nouns or collective nouns which are uncountable. The following table lists the semantic grouping of noun classes according to the category of number expressed by the noun class suffix.

Semantic grouping of noun classes according to number:

singular noun classes: fourteen classes

'O NDU NDI NDE NGE NGO NGAL
NGU NGEL NGOL BA KA KI KOL

plural noun classes: four classes

'BE 'DI 'DE KOY

non-countable noun classes (mass nouns, collectives): four classes

'DAM KO 'DUM KAL

This chapter discusses all the noun classes in Maasina separately: singular classes in section 7.2, non-countable classes in section 7.3, and plural noun classes in section 7.4.

7.1.2 SIZE

Two singular/plural pairs of noun classes have a productive inflectional function in Fulfulde as the markers of the augmentative and the diminutive word formation. The augmentative noun classes show that the Fulfulde noun classes are very different from dialect to dialect. A description of the noun class system needs to take this into account and one should describe the noun class system of each dialect separately before a comparison can be made. The

following list shows the diminutive and augmentative classes in Maasina (Tioulenta 1991:166) and Gombe (Arnott 1970a:75).

Maasina	Gombe	semantic category indicated by the class suffix
NGEL	NGEL	diminutive
KOY	KON	plural diminutive
KAL	KAL	small quantities
	NGUM	pejorative diminutive
NGAL	NGA	augmentative
'DE	KO	plural augmentative

The diminutive classes occur only in diminutive forms of nominal paradigms. The augmentative NGAL class in Maasina also contains other nouns.

7.1.3 SEMANTIC ASSOCIATIONS

Most noun classes do not have a homogeneous semantic content, they have no obvious semantic feature that can serve as a label. The semantic motivation for the groupings of nouns into these classes and the principles that govern their distribution have received relatively little attention in the literature on Fulfulde (Arnott 1959, 1967, Lacroix 1967, Mukarovsky 1983, Mukoshy 1991, Mohamadou 1991, 1994). There are within these classes clear semantic groupings. Arnott (1970a:75) lists a number of generalizations that can be made about the meanings of the nouns found in the different classes in Gombe. He lists some shapes (globular and annular things in the NDE class; long and thin things in the NGOL class) and some life forms (fishes in the NGU class; trees in the KI class) as typical for certain classes, besides meanings related to size and number. Mohamadou* (1991, 1994) tries to find semantic features shared by all nouns in a class in order to describe the meaning of the classifiers, using the model of Culioli. This model still leaves a number of semantic groupings (e.g. 'cow', 'fire', and 'sun') unexplained.

There are two main obstacles that may have prevented linguists from unravelling the semantics of the noun classes. One obstacle is the limited vision on possible principles for the semantics of a noun class. A class is marked by one morpheme, hence it was concluded that this morpheme should have one (constant) meaning retrievable in all nouns formed with that class marker. Thus, only one possible semantic motivation for a noun class was envisaged: namely the idea that all nouns in a class share one and the same semantic feature, thus forming a semantic field. Recent studies (Dixon 1982, Lakoff 1987) have shown that the groupings can be based on the fact that items belong to the same semantic frame. A semantic frame is created by associations. The items are grouped together because they occur in the same domain of experience. Lakoff calls this the Domain of Experience Principle:

* This study does not provide Mohamadou's semantic analysis in any detail. Mohamadou uses a different model emphasizing the search for a common feature in the form of a combination of the notions "dense", "discrete", and "compact" for all nouns of one class, whereas the present study emphasizes the search for semantic associations within a noun class. It is nevertheless remarkable that many subgroupings within the various Fulfulde classes are very similar in both studies.

If there is a basic domain of experience associated with A, then it is natural for entities in that domain to be in the same category as A. (Lakoff 1987:93)

The Domain of Experience Principle is an important innovation in the description of noun classification. It is a new tool that can be used to look for motivations for the classification of nouns other than the simple sharing of one semantic feature.

A second obstacle to the research into the semantic categorization of nouns in Niger-Congo languages follows from the domain of experience principle. Culture plays an important role in the definition of these domains of experience. Therefore, culture is also important in the categorization of things. It is very human but naive to regard one's own culture as universal and all other cultures as a deviation from the normal pattern. The false presumption that a Western point of view is a universal point of view can easily make one blind to the different perspectives on how things are related in other cultures. Lakoff states explicitly that a dominant Western point of view has consequences for the study of categorization in non-Western languages:

The fact is that people around the world categorize things in ways that both boggle the Western mind and stump Western linguists and anthropologists. More often than not, the linguist or anthropologist just throws up his hands and resorts to giving a list... (Lakoff 1987:92)

Such a list of items which are classified together is also given by Arnott as the description of the semantic content of noun classes in Fulfulde. These subsets are identified because they share a common semantic feature. The search for common features in the meaning of nouns of one noun class can lead to the discovery of semantic fields which are subsets of that noun class. Listing the semantic subsets of a noun class is the beginning of the search for the semantic principles that underlie the categorization expressed by the noun class system.

Besides the grouping in semantic fields, nouns can also be grouped on the basis of a shared semantic frame, i.e. they do not have a semantic feature in common but their meanings co-occur in the same semantic context, i.e. they index parts of experience.

Some particular forms of semantic association are metonymy, abstraction, and opposition. Words which are related by metonymy are often in the same category. Metonymy is the relation of one well-understood or easy-to-perceive concept A which is either part of or closely associated with another concept B. Concept A can be an aspect of something that is used to stand for the thing as a whole or for some other aspect of it (Lakoff 1987:77-90). An example of metonymy is when a place stands for things that occur in that place. The word **suudu** 'house, home' is related by metonymy with things that happen with and at the home such as **lamru** 'name-giving feast seven days after the birth of a child' and **ʔegguru** 'migration'. This metonymic relation accounts for the fact that they are put in the same class. Another example of metonymy is when a thing and its function are associated with each other. Pieces of calabashes (usually halves) like **tum^mbude** 'calabash bowl' and **hɔrde** 'calabash spoon' are typically used as kitchen utensils. Their function as a utensil has

motivated the grouping of other utensils such as **lɔɔⁿde** ‘water pot’ and **haasaade** ‘file’ in the same noun class as the calabashes.

Connotations of certain words can also motivate the grouping of other words with the same connotation. This is also an example of metonymy. Human beings are thought of as very valuable, other entities are grouped in the same class as human beings when they are also thought to be valuable. Words for God are grouped in the same 'O class because God is also thought of as very respectable and valuable.

Words can be linked by abstraction. Big birds are grouped in the NGAL class. The abstraction of the feature “big” from this semantic subset has motivated the augmentative function of the NGAL class. The NDI class groups words that are forms and means of production. The abstraction of the semantic feature “production” has motivated the grouping of a number of verbal nouns which express the result of the action described by the verb in the same NDI class., e.g. **needi** ‘education’ which is the result of **nehude** ‘to educate’.

Words can be linked in the same class because they are opposites. The word **nguurⁿdam** ‘life’ is in opposition with a number of nouns which describe things that make one feel lifeless, like **ɲɔɔⁿdam** ‘drought, hardness’ and **ɲɔɔyⁿdam** ‘meagerness’.

Not all words in a class are directly linked to one another. It is also possible that words and semantic subsets are linked in a chain. An example of chaining is found in the NGAL class. The word **giyal** ‘bone’ is in the NGAL class because of its prototypical stick-like shape. The word **kɔyⁿgal** ‘foot, leg’ is linked to **giyal** ‘bone’ because it is a body part which contains a bone. The birds in the NGAL class are linked to **kɔyⁿgal** ‘foot, leg’ because of the fact that they are often cursorial birds, these birds walk rather than hop. The augmentative words are linked to the walking birds because of their prototypical size: walking birds are bigger than hopping birds (which are in the NDU class). The word **giyal** ‘bone’ has therefore no direct link with **nedⁿdal** ‘big person’. These words are linked indirectly via chaining by the concepts bone-foot-walking bird-augmentative.

Mythological information also plays an important role in explaining the categorization of nouns. The link between (more frequently flying, small, and hopping rather than walking) birds and the spiritual world can only be explained by the knowledge that the Fulbe speakers have about the spiritual world. The Fulbe say that some birds can do the same things as bad spirits. People say that, like spirits, these birds can cause people to be sick, they can cause people to become crazy and wander around without a goal, and they can cause children to die (De Bruijn personal communication). Pejorative names are given to children to mislead the spirits in letting them think that the child is not valuable enough to be taken away. The categorization of spirits, birds, and pejorative names in the NDU class is motivated by their co-occurrence in the experience of the Fulbe with the spirits.

It follows that the nature of the semantic content of a class and the factors that motivate the links between the different groups in a class are determined by the culture in which the Fulfulde language is used. The present hypotheses are preliminary. The validity of the proposed associations has to be further tested against the cognition of the speakers, for example by word association tests and the explanations that speakers give for their associations.

Many Niger-Congo languages have a system of noun classes (Bendor-Samuel 1989, Williamson 1989), and being an Atlantic language (see Greenberg 1970, Wilson 1989), so does Fulfulde. The noun class systems in all these languages show many formal similarities

in the way that nouns are categorized. The many cognate noun classes show that the present noun class systems are a reflection of many thousands of years of human experience. Even though the classes may be shared in broad terms, they are motivated, understood and sustained in cultural terms. The hypothesis is that the present culture of a speech community does have an influence on the semantic classification of the nouns. Synchronic class-shifts show that the noun class system is constantly subject to semantic re-analysis. This is demonstrated by the semantic shift of the nouns from the NGU class into the 'O class due to a "recent" taboo on the female sexual organs which remain the only nouns that are denoted by the NGU class in the dialect of Maasina. The integration of loan-words into the Fulfulde noun classes motivated by semantic analogy also demonstrates that the semantic principles motivating the categorization expressed by the noun classes are productive.

The semantic principles motivating the categorization of nouns often have the form of semantic associations. These associations link the meanings of the nouns in one noun class. All the semantic associations found in one noun class form a semantic network. The semantic networks are represented by figures consisting of circles and lines which are labelled. The circles in a semantic network represent semantic subsets which are formed by a semantic field, i.e. words that share a semantic feature. The shared semantic feature of a semantic field is written in italics within the circle that represents a semantic field. The examples are in plain letters. The basis of the associations is written outside the circles on the lines that link the subsets. The semantic subsets which can consist of one word only are linked by metonymy or by metaphor or by the extension of the meaning of the semantic category or by association of the meaning of one of its members to another subset.

The different forms of the suffixes distributed over the different suffix grades is also exemplified in the discussion of each noun class. The semantic effect of the grade marker and the semantic effect of the class marker itself are extensively discussed. The nouns which have a class suffix that is different from their concord is sometimes discussed under the noun class of their suffix, even if their actual syntactic and synchronic noun class is the class of the concord.

7.2 SINGULAR CLASSES

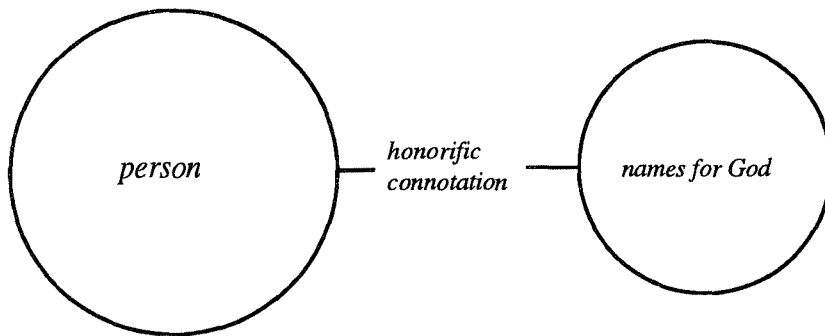
The majority of nouns in these classes have a singular meaning. In the paradigm of the noun, the same stem also combines with a plural class marker. Although the singular meaning is predominant in these classes, some of them also contain a small number of uncountable nouns, e.g. a word like "jaaree"di 'sand' in the NDI class.

7.2.1 THE 'O CLASS

The 'O class contains the largest number of nouns and the largest number of suffix forms. Speakers who learned Fulfulde late as a second language in Maasina have generalized this class concord as the concord of all nouns. Mother tongue Fulfulde speakers simplify their language by replacing all concords with the concord of the 'O class when talking to foreigners (cf. Tioulenta 1991:201).

In Maasina the 'O class suffix is found on a number of stems which is smaller than the number of nouns using the concord of the 'O class. First, the nouns with a suffix of the 'O class are discussed. The semantic label [human] only describes the meaning of the nouns that take the suffix of the 'O class. The class of human beings has honorific connotations because

people are thought of as respectable beings. This honorific connotation is the reason why names for God are classified in this class too. The majority of nouns with a suffix of the 'O class form a semantic field, they share the semantic feature "person". This semantic field is linked by association to another semantic field consisting of names for God.



<i>persons</i>		<i>names for God</i>	
garko	man	laamdō	lord, ruler
debbō	woman	geenō	eternal one
neddō	person	dewetēdō	who is being obeyed

Not all terms that denote human beings are in the 'O class. Some names denoting persons can be found in other classes motivated by additional semantic connotations. Abusive names used in name calling are in the NDE class, names to protect children from evil spirits are in the NDU class, ex-slave names are in the NDI class, ordinary names and (inalienable) address terms for kinship relations use the concord of the 'DUM class. Names can contain the suffix of the 'O class, e.g. **gaaddō** (lit: 'happy one') but they use a concord of the 'DUM class. The only words denoting persons which are not in the 'O class and which are perhaps not names are **ᵐboomri** '(strong) nubile girl' and **baapaaru** 'herdsman'. The last word is also the name of a bird that is always found near cows. Being a bird motivated its membership of the NDU class, the meaning was extended by metaphor to the herdsman who is always found in the company of cows. The NDI class membership of **ᵐboomri** '(strong) nubile girl' may be motivated by the image of a strong young girl as a sign of wealth.

The suffix forms of the 'O class are given in the following table. Historically all the suffix forms are based on the class marker *ʔō of the 'O class. The different suffix forms result from the combination of the class markers with the different grade markers or with other morphemes.

grade A:	-ɔ	< *. ^ʔ ɔ	objective word derivation: attached to nominal stems, person is object (patient) of related verb in deverbal word derivation
	(-j)-ɔ	< *. ^ʔ y-ɔ	in affectionate nouns with *aay
grade B	-jɔ	< *. ^ʔ ɣ-ɔ	associative word formation: person associated with meaning of noun in stem
	-ɔɔwɔ	< *. ^ʔ ɔ-ɣ-ɔ	agentive noun in 'O class
grade C:	-dɔ	< *. ^ʔ r-ɔ	alienable kinship terms
grade D:	-dɔ	< *. ^ʔ n-ɔ	subject pronoun, attached to verbal stem followed by verbal marker in participle
atypical:	-kɔ	< *. ^ʔ k-ɔ	rare form, possibly historically old possessive form

The nouns which use a concord in the 'O class but which have a different or no class suffix are discussed in sections 7.2.1.7 and 7.1.2.8. These nouns cannot all be characterized by the semantic feature [human].

7.2.1.1 THE GRADE A SUFFIX FORM -ɔ

The suffix form -ɔ marks nouns denoting human beings, formed using the objective word derivation. The underlying form of this suffix is *.^ʔɔ. A glottal stop cannot occur next to another consonant.

dim-ɔ / rimɓe	‘nobleman, -woman’
gawl-ɔ / wawluɓe	‘beggar (F: praise singer from Fuuta Tooro)’
bayl-ɔ / wayluɓe	‘blacksmith’
ɲeeɲ-ɔ / ɲeeɲɓe	‘artisan, praise singer’
guj-jɔ / wuyɓe	‘thief’
lab-bɔ / lawɓe	‘woodworker’
kaab-ɔ / haabuɓe	‘woman with children’
capaat-ɔ / safarɓe	‘Mauritanian’
dɔkk-ɔ / dɔkkɔ^ʔen	‘generous person’
maab-ɔ / maabuɓe	‘weaver, praise singer’

The suffix form -ɔ marks a number of nouns that are derived from verbs. Some of the above words may also have been derived from verbs, but their derivation is not transparent.

The objective word derivation indicates that the deverbal word has the semantic role of the object of the action expressed by its verbal stem. The semantic role of the object of an action verb is the patient. It is also the patient which is expressed when the noun is derived from a stative verb in the objective word derivation.

object of love: person who is being loved	gid-ɔ / yibɓe	‘friend’
	yidde (*yid-)	‘to love’
object of admiration: person who is being admired	jaag-ɔ / yaagiraabe	‘sweetheart’
	yaag-aa-de	‘to admire, to respect, fall in love’

object of settling: person who is being settled (a guest is s.o. who is settled by his/her host)	kɔd-ɔ / hɔɓɓɛ hod-u-de	‘guest’ ‘to settle’
patient of being toothless: person who is toothless (experiencer)	mulg-ɔ mulg-u-de	‘toothless person’ ‘to be(come) toothless’
object of hate: person that is being hated	gaŋ-ɔ / way-ɓɛ waŋ-u-de	‘enemy’ ‘to hate’
object of dispersion: person who is being dispersed	pull-ɔ / ful-ɓɛ full-u-de	‘Fulbe person’ ‘to disperse’
object of obedience: person who is being obeyed	deb-ɔ / rew-ɓɛ rew-de	‘woman’ ‘to obey, follow’

The word **debbɔ** ‘woman’ is paraphrased as a person who is being obeyed, not as a person who obeys (which would give the forms **dewdɔ** ‘who has obeyed’ or **dewɔɔwɔ** ‘who is obeying’). There is some cultural evidence that the role of Fulbe women is indeed not subordinate. It is mainly in the social sphere that women have a greater say than men. Marriages, for example, will not take place if women do not agree. Guests will not be received when women refuse to give milk and butter. Milk and the milking rights of women form the basis of this influential position of Fulbe women (De Bruijn, personal communication).

A number of nouns with the suffix form -ɔ express the semantic role of the subject of the related verb. Synchronically, they cannot be analyzed as agentive derivations because the productive marker for the agentive nouns in the 'O class has the form -ɔɔwɔ (see section 7.2.1.2 and section 8.1.4). Perhaps the verbs related to these nouns are derived from the noun stem, rather than the noun being derived from the verb stem.

Nouns which denote agents formed with the grade A suffix -ɔ:

gujj-ɔ / wuyɓɛ	‘thief’	wujj-	‘steal’
labbo / lawɓɛ	‘woodworker’	law-	‘dig in wood’
baylo / wayluɓɛ	‘blacksmith’	wayl-	‘transform’
ɲɛɲɔ / ɲɛyɓɛ	‘praise singer’	ɲɛɲ-	‘flatter’ [FT]
ɲɛɲɔ / ɲɛyɓɛ	‘praise singer’		

A “thief” is the agent of the verb “to steal”. A praise singer is the agent of the verb “to flatter”. A blacksmith transforms iron ore into iron, and iron into tools. A woodworker is the agent of the verb “to dig into wood”. These agentive nouns remain counter-examples to the generalization that grade A nouns express a notion of “object”. However, grade A is the unmarked grade. The interpretation of its meaning is not as strict as the notions expressed in the other grades. Another possible explanation is that the formation of these agentive nouns with only the suffix form -ɔ added to the verb root is a petrified agentive word formation that is older than the productive agentive formation with the suffix -ɔɔwɔ. This might indicate that the semantic differentiation between the different suffix forms of one noun class was a later innovation in Fulfulde.

There are a number of nouns where a morpheme **-ar-** is added to the nominal stem. The morpheme **-ar-** adds a diminutive and pejorative meaning to the word. The noun stems which contain this morpheme **-ar-** combine with the grade A suffix **-ɔ**.

dunⁿd-ar-ɔ / dunⁿdarɓɛ	‘bold, cheeky person’
neet-ar-ɔ / neetarɓɛ	‘s.o. impolite, uneducated’
naamt-ar-ɔ / naamtarɓɛ	‘s.o. who eats alone avoiding others’
buuw-ar-ɔ / wuwarɓɛ	‘nomadic lineage of Fulbe’
jatt-ar-ɔ	‘impolite person’

A small number of affectionate terms take the suffix form **-jɔ** in the singular. The consonant [j] is analyzed as stem final, which is followed by the suffix form **-ɔ** of grade A. The affectionate connotation of these words is demonstrated by comparing them with nouns expressing the same concept, but without the affectionate connotation.

jɔm^mb-aaɟ-ɔ / yɔm^mb-ay-ɓɛ	‘newly-wed’	cf. kurtindɔ , kurtaadɔ
bam^mb-aaɟ-ɔ / wam^mb-ay-ɓɛ	‘praise-singer’	cf. maabɔ
diim-aaɟ-ɔ / riim-ay-ɓɛ	‘(ex-)slave’	cf. maccudɔ
surb-aaɟ-ɔ / surb-ay-ɓɛ	‘nubile girl’	cf. mboomri

One argument for the analysis of the morpheme with the forms **-aaɟ-** in the singular and **-ay-** in the plural is the semantics. What is common to these four nouns given above is an element indicating affection. It is not probable that this morpheme ***aay** is the negation as suggested by Riesman (1977:83) and others (Diarah 1982:291-292, Ba & Daget 1962:66), because nowhere else can a negation marker be found in a nominal word derivation. Another argument for the postulation of the morpheme ***-aay-** is the plausibility of its allomorphy **-aaɟ-/-ay-**. The gemination of the final glide [y] in combination with the underlying glottal initial consonant of the suffix ***ɔ** is a regular process. The stem final [y] can form a geminate consonant [jj] as a result of its merger with the suffix initial consonant [ʔ], just as in the word **gujɟɔ/wuyɓɛ** ‘thief’. The shortening of the geminate consonant [jj] in the singular form can be explained by the avoidance of a marginal CVVC syllable structure. The length alternation of the vowel [a] in the morphemes **-aaɟ-/-ay-** in the singular and plural can be explained in the following way: the vowel [aa] is shortened in the plural to avoid the marginal syllable structure CVVC. Shortening of the CVVC structure often takes place, although it is not obligatory.

***ɔ-yɔm^mb-aaɟ-ɔ > *jɔm^mb-aaɟ-jɔ > jɔm^mb-aaɟ-ɔ**
***yɔm^mb-aaɟ-ɓɛ > yɔm^mb-ay-ɓɛ**

The singular forms of these affectionate terms are analyzed as containing the grade A suffix **-ɔ**. The word **jɔm^mbaaɟɔ** ‘newly-wed’ does not contain the grade B suffix **-jɔ**, because a grade B suffix would not leave a trace of [y] in the plural form **yɔm^mbayɓɛ**. The morpheme ***-aay-** indicating affection could be related to the forms **-aap-** and **-ay-** in the affectionate term **bapp-aap-ɔ/wapp-ay-ɓɛ** ‘uncle, father’s brother’. The word has a short form **bappa** used as the address term for the paternal uncle. The identical plural formation and the

presence of an affectionate connotation in both stem formations with the morpheme **-aay-* and the morpheme **-aaj-* point to an etymological relation. There is an affectionate association present in the relation with a **bappaajɔ**, even though this relation can be disturbed by competitive interest in cattle inheritance. A **bappaajɔ** has to take care of you when your father dies. The relation between you and your **bappaajɔ** is similar to the relation between you and your father except that it is more relaxed because one (especially a son) has to show great respect (**yaage**) to one's father (De Bruijn and Van Dijk, personal communication).

Klingenheben (1941:41) describes the noun **bappaajɔ** 'paternal uncle' as a compound based on the word **baaba** 'father' and gives two possible etymological explanations: a combination with either the stem **fam-** 'small' and the suffix **-jɔ**; or with the term found in Nigerian Fulfulde **paajɔ/fayɛ** 'youth' derived from the verb stem **faaynd-** or **faayd-** 'be young, grow up' (Taylor 1932:47). Possibly the affectionate connotation present in the word **bappaajɔ** / **wappayɛ** 'father's brother' is signalled by the morphemes **-aaj-** / **-ay-**.

surbaajɔ / surbay-ɛ	'young, nubile girl'
surba / surbaa-ɛ	'young, nubile girl'

The alternative singular and plural formations for the word 'nubile girl' support the idea that reanalysis of the boundary between the stem and the suffix in this word could have taken place. The final syllable **-jɔ** is sometimes reanalyzed as the suffix form **-jɔ** in some words.

7.2.1.2 THE GRADE B SUFFIX FORM **-jɔ**

The nouns formed by the associative derivation in the 'O class contain the suffix form **-jɔ**. These nouns are based on stems which are themselves full words. Klingenheben (1963:127) calls these nouns secondary nominals [sekundäre Nomina]. These are nouns based on complete utterances which can be a full noun or even a full sentence. When the stem is a full noun, this stem can be an indigenous Fulfulde noun with a class suffix or a loan-word. The following examples involve stems based on full Fulfulde nouns.

deɔ-reeduu-jɔ	'pregnant woman'	reedu	'belly'
ʔafɔ-jɔ	'first son'	ʔafɔ	'name of first son'
hakkuⁿdee-jɔ	's.o. in the middle'	hakkuⁿde	'between'
hɔɔre-jɔ	'chief, president'	hɔɔre	'head'
yeesɔ-jɔ	'the one in front'	yeesɔ	'face'

The following examples are loan-words to which the **-jɔ** suffix of the associative derivation is added. The last three examples are taken from Tioulenta (1991:332, 336, 348).

gargasaa-jɔ / gargasaabe	'leather-worker'	< Tsk.	gargasa
ʔannabaa-jɔ / ʔannabaabe	'prophet'	< Ar.	ʔannaba
kelemasaa-jɔ	'young man'	< Bmb.	kelemasa
buusee-jɔ / buuseeɛ	'butcher'	< Fr.	bufey 'boucher'
punee-jɔ / funeeɛ	'twins'	< Son.	fune

Loan-words that are integrated into Fulfulde morphology by the suffixing of a class marker behave like other full indigenous Fulfulde nouns which receive a class suffix. They combine with a grade B suffix and replace the singular suffix with the suffix of the plural.

7.2.1.3 THE GRADE B SUFFIX FORM -wɔ: AGENTIVE

A special form of the 'O class occurs in the formation of agentive nouns in the 'O class. The following morphemes are present in the underlying structure of the agentive marker referring to persons in the 'O class

verb stem + ʔɔ + ɥ + ʔɔ > verb stem + wɔ

The agentive noun in the 'O class does not take the suffix form -jɔ which would be the regular suffix form in grade B, but the atypical grade B form -wɔ. The agentive (-ɔ- followed by a grade B suffix) can combine with all classes. The morpheme -ɔ- in the stem is followed in other classes by the regular class suffix of grade B. The hypothesis is that the agentive marker -ɔ- is the same as the class marker of the 'O class. Stem final vowel lengthening is caused by the inchoative marker [ɥ] and is normal for stems in the associative word derivation.

ʔaawɔwɔ / ʔaawɔɛ	'fisherman'	< ʔaawde	'to fish'
dimnɔwɔ / rimnɔɛ	'midwife'	< rimnude	'to cause to give birth'
durɔwɔ / durɔɛ	'herdsman'	< durde	'to pasture'
jɛɛɔwɔ / jɛɛɔɛ	'hawker'	< jɛɛyde	'to go around selling'
capɔwɔ / sapɔɛ	'weaver'	< sapude	'to weave'

The formation of the agentive noun is irregular when the agentive marker -ɔ- is followed by the (cognate) class suffix of the 'O class, not in other classes. It is not clear why the agentive suffix in the 'O class has the form -wɔ and not -jɔ.

7.2.1.4 THE GRADE C SUFFIX FORM -ɗɔ IN KINSHIP TERMS

The suffix form -ɗɔ marks both the subjective and the circumstantial word derivation. Kinship terms (which are alienable) are formed with the suffix form -ɗɔ in Maasina. (In other Fulfulde dialects corresponding kinship terms are found with the suffix form -wɔ.) It is not always possible to decide whether a particular kinship term is formed using the subjective word formation or the circumstantial word derivation. The circumstantial extension -ir- is found in the word formation of kinship terms. The presence of the circumstantial marker -ir- is often reason for using the circumstantial word formation. But the kinship terms can also be interpreted as the subject of passive verbs expressing the state of being in a relation using the subjective word formation. The kinship terms behave like participles in their choice of the suffix form and in the occurrence of verbal morphemes in their stem. The morpheme -aa- occurring in kinship terms is identical to the morpheme indicating a passive and completive meaning in participles.

The kinship terms can be derived from both nominal and verbal roots. There are a few kinship terms which are related to existing verbs.

nawliraadɔ / nawliraabe	‘co-wife’	nawlirde	‘to make co-wives’
gijiraadɔ / gijiraabe	‘peer, age-mate’	gijirde	‘to be(come) friends’
banⁿdiraadɔ / banⁿdiraabe	‘sibling’	banⁿdude	‘to be(come) related’

These verbs are exemplified in the following sentences. The first example is taken from my field notes on the Ringimaaji dialect in Cameroon. The second example of Nigerian Fulfulde is from Taylor’s dictionary (1932:148). The last examples are from Maasina.

Ringimaaji: **mi yid-i ʔen soob-ir-a**
 I want-COMPL us be friend-CIRC-SUB
 ‘I want us to be(come) friends.’

Nigeria: **M. daʔɔ-it-i nawl-ir-go ɓe: D. sali**
 M. plan-REV-COMPL make co-wives-CIRC-INF them: D. refuse-COMPL
 ‘M. wanted to make them his co-wives, but D. refused.’ (Taylor 1932:148)

Maasina: **M. ʔanniy-ike nawl-ir-de ɓe, D. sal-ii**
 M. intend-M.COMPL make co-wives-CIRC-INF them, D. refuse-M.R.COMPL
 M. wanted to make them his co-wives, but D. refused.

midɔ yid-i ⁿgijj-ir-en
 I-LOC want-R.COMPL be friend-CIRC-(SUB)-we incl.
 I want us to be(come) friends.

The verb **nawlirde** in the active voice means ‘to make co-wives’ (Taylor 1932:148). The verb **nawlireede** in the passive voice means ‘to be a co-wife’ (Zoubko 1980:371). The verb stems **soobir-** in Ringimaaji and **ⁿgijjir-** in Maasina mean ‘become friends, establish friendship’. The verb forms of the kinship terms in the active form seem to have the meaning of ‘creating a (certain type of) relation with someone’. The verb forms in the passive form have the meaning of ‘being in a (certain type of) relation with someone’. The kinship terms derived from the passive verb resemble participles. However, kinship terms are more often derived from nominal roots. The nominal roots can also have a short form. The short form is used as an address term and to express an inalienable relation.

ʔinniraadɔ / ʔinniraabe	‘mother; sister of mother’	ʔinna
mijiraadɔ / mijiraabe	‘younger sibling’	miji
mawniraadɔ / mawniraabe	‘elder sibling’	mawni
maamiraadɔ / maamiraabe	‘grandparent; ancestor’	maama
goggiraadɔ / goggiraabe	‘paternal aunt, stepmother’	goggo
kaawiraadɔ / kaawiraabe	‘maternal uncle’	kaaw, kaw
dendiraadɔ / dendiraabe	‘cross-cousin’	dendi
genⁿdiraadɔ / genⁿdiraabe	‘wife’	genⁿdi
ʔesiraadɔ / ʔesiraabe	‘in-law’	ʔesi
baabiraadɔ / baabiraabe	‘father’	baaba, ʔabba

nawliraadɔ / nawliraabe	‘co-wife’	nawla
banⁿdiraadɔ / banⁿdiraabe	‘sibling’	banⁿdi
baadⁿiraadɔ / baadⁿiraabe	‘child of sibling of opposite sex’	

The long form of kinship terms with the ending **-ir-aa-dɔ** occurs when the term is alienable. The word **baabiraadɔ** ‘father’ is used when a father in general is indicated or when it is not indicated whose father is being talked about. The inalienable kinship term is always followed by an indication of the person with whom this relation exists, so it is either followed by a name or by a (special) possessive pronominal suffix. The inalienable form can only occur in the singular. A kinship term has a class suffix in its alienable form. The plain inalienable form without a suffix only occurs when it is followed by a name of the person with whom there is such a relation.

ʔinna ʔaddu	‘mother of Abdou’
ʔabba hammadi	‘father of Hammadi’
mijni kadiija	‘younger sibling of Kadiija’
mawni fatumata	‘elder sibling of Fatumata’
maama bɔɔkari	‘grandparent of Bookari’
gɔggɔ mariyama	‘paternal aunt of Mariyama’
kaw fanta, kaawu fanta	‘maternal uncle of Fanta’
nawla ʔaysatu	‘co-wife of Aysatu’ (Zoubko 1980:371)

Kinship terms are examples of the circumstantial word derivation. This conclusion is based on the fact that the suffix form of grade C occurs in the paradigm of some kinship terms with the diminutive NGEL class. This is because the suffix forms of the circumstantial derivation and the subjective word derivation can be distinguished in the NGEL class.

mijira-gel, miiragel	‘little younger sibling’
mijiraa-dɔ	‘younger sibling’
mijiraa-be	‘little younger sibling’

There are a few kinship terms that do not contain the verbal morphemes **-ir-aa-** in the alienable long form. These are the words **dewɔrdɔ** ‘potential in-law’ and **ɓidɔ** ‘child’. The word **dewɔrdɔ** takes the suffix form of grade C, possibly on the analogy of the suffix form taken by other kinship terms in which the circumstantial verbal extension occurs. This form **-ɔr-** is the form of the circumstantial extension in middle voice verbs. Another difference with the alienable kinship terms is that there is no short inalienable form of this kinship term. The translation of **dewɔrdɔ/rewɔrɓe** as an ‘honoured person’ by Zoubko (1980:130) does not convey the full meaning of the word. The term **dewɔrdɔ** is used for people with whom one has an “avoidance” relation. One is not allowed to enter a courtyard where one’s **rewɔrɓe** live. You are not allowed to eat with or to sit on the same bed with someone who is your **dewɔrdɔ**. The families which are your **rewɔrɓe** in a village are fixed. You have to step aside and go in another direction to avoid greeting your **dewɔrdɔ** when you see him or her coming. If greeting cannot be avoided you have to look the other way when greeting him or her. Families that are each others **rewɔrɓe** always come from the same social group. Your

rewərɓɛ are also **rimɓɛ** ‘noble’ when you are a **dimɔ** ‘noble’ yourself. If you are **diimaajɔ** ‘ex-slave’, your **rewərɓɛ** are also found amongst **riimayɓɛ** ‘ex-slaves’. This avoidance behaviour is similar to the behaviour that one should show towards one’s in-laws. This is because your wife will be chosen from your **rewərɓɛ** if there is no member in your family suitable as a marriage candidate. So **rewərɓɛ** are potential partners and potential in-laws. It is on the basis of this meaning that the following etymology of the word is proposed. The stem **rew-** ‘female’ combines with the verbal circumstantial extension **-r-** which introduces the argument with which the action of the verb is performed. The vowel [ɔ] is the middle voice marker which can express a meaning of potentiality (Arnott 1970a:257). Thus **dewərɔɔ** literally means ‘person from whose family you may get your wife’. The word **dewərɔɔ** is treated as a kinship term. The presence of the circumstantial marker **-r-** conditions the circumstantial word derivation (grade C), as in all alienable kinship terms.

The word **ɓiddɔ** ‘child’ is another word which is similar to kinship terms, but it does not combine with the verbal morphemes **-ir-aa-**. It takes the suffix form of grade D which is characteristic for verbal participles. It is not clear why this word is formed using the subjective word derivation of grade D.

ɓii ^ʔ aadamu	‘child of Aadamu’ (inalienable form)
ɓiy-iikɔ	‘his child’ (inalienable form)
ɓiddɔ / ɓibɓɛ	‘child’ (alienable form)
ɓiŋ^ggel / ɓikkoy	‘little child’ (diminutive alienable form)

The historical and underlying form ***ɓih** is proposed for the word ‘child’. The consonant [h] cannot occur adjacent to other consonants, nor syllable finally. This form is still present in the rarely pronounced form **ɓihiikɔ** ‘his/her child’ which is said to sound very old-fashioned. In some other dialects the form **ɓihiikɔ** ‘his/her child’ is still regular. Compensatory lengthening of the vowel [i] takes place in the inalienable form of the word **ɓii**. The stem final [h] is deleted and compensatory lengthening of the suffix initial consonants [ɗ], [ɓ], [ŋ], and [k] takes place in the paradigm of the alienable forms **ɓiddɔ** ‘child’ **ɓibɓɛ** ‘children’, **ɓiŋ^ggel** ‘little child’, and **ɓikkoy** ‘little children’.

7.2.1.5 THE GRADE D SUFFIX FORM **-ɔɔ**

Most nouns that combine with the suffix form **-ɔɔ** can be clearly explained as participles. The verb from which the participle is derived exists. The semantic interpretation of the suffix as the subject pronoun of the verb is quite transparent in these nouns. The morphemes expressing voice and aspect in the participles can be easily recognized in the following nouns. The morpheme of the active completive participle **-u-** can be deleted if the syllable structure conditions are not violated.

Active completive: -u- / Ø (zero)

kors-u-ɔɔ / horsuɓɛ	‘sweetheart, lover’	hɔrs-ude	‘to cherish, to love’
juul-ɔɔ / juulɓɛ	‘Muslim’	juul-de	‘to pray’
ceer-ɔɔ / seerɓɛ	‘divorced man’	seer-de	‘to divorce’
bar-ɔɔ / warɓɛ	‘murderer’	war-de	‘to kill’

Middle completive: -ii-

laam-ii-dɔ / laamiibe	‘chief’	laam-aade	‘to reign, to govern’
badɔ-ii-dɔ / wadɔiibe	‘horseman’	wadɔ-aade	‘to mount a horse’

Passive completive: -aa-

ceer-aa-dɔ / seeraabe	‘divorced woman’	seer-eeɗe	‘to be divorced’
kool-aa-dɔ / hoolaabe	‘trusted person’	hool-eeɗe	‘to be trusted’
nel-aa-dɔ	‘messenger, prophet’	nel-eeɗe	‘to be sent’
tag-aa-dɔ / tagaabe	‘human being’	tag-eeɗe	‘to be created’

Middle incompletive: -ɔɔ-

jaag-ɔɔ-dɔ / jaagɔɔbe	‘trader, merchant’	jaag-aade	‘to trade’
loh-ɔɔ-dɔ / lohɔɔbe	‘hunter’	loh-aade	‘to lay in ambush’

Passive incompletive: -eteɗ-

dew-eteɗ-dɔ	‘God’	rew-eeɗe	‘to be obeyed’
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There are a number of nouns which take the suffix form **-dɔ** where it is more difficult to find the related verb from which the participle could have been derived. However, the composition of these words is so similar to that of participles that they are also considered to be participles in this study. Perhaps the verbs from which they were derived have been lost. It is also possible that a semantic shift has occurred which has obscured the semantic connection between the noun and the verb from which it is derived.

kooɔdɔ / hooɔbe	‘female slave’	hoor-a	‘take back, return home with’ (Zoubko 1980:243)
cedɔ / seɓbe	‘Sorogo’	sed-a	‘sieve, sift, winnow, separate, differ, distinguish, diverge, divorce, be on bad terms with s.o., end sth., get rid of s.o.’ (Zoubko 1980:430)

Many translation equivalents are given for the verb stem **sed-**. What meaning relates best to the ethnic name Sorogo (alternatively known as Bozo) is not obvious. Is the sifting a metaphor for their professional occupation as fishermen who use their nets to sift fish in the rivers and lakes? Is their name indicating that they are different from Fulbe? Was the name given at a time when Fulbe and Sorogo were on bad terms with each other? These are all plausible links but one cannot be sure which one is accurate.

maccudɔ / maccube	‘slave, prisoner of’	macc-aa-go	‘to be enslaved’
		macc-in-go	‘to enslave’ (Noye 1989:235)

There is no active verb with the stem ***macc-** that serves as the verb stem for the participle **maccudɔ**. The verb stem occurs with the middle voice and in the active voice with the causative extension **-in-**. The meaning of the verb stem without the causative or middle voice meaning must be something like ‘to be a slave’.

7.2.1.6 THE SUFFIX FORM -kɔ

There are two nouns that occur with the suffix form -kɔ in the 'O class.

gaynaakɔ	'herdsman, cowherd'
gɔrkɔ / wɔrɓɛ	'man'

A suffix of identical shape -kɔ also occurs in the independent pronoun and in the possessive pronouns of the 'O class.

kaŋ-kɔ	'he, she, it'
mak-kɔ	'his, hers, its'
-ii-kɔ	'his, hers, its'

The last example -ii-kɔ is the form of the possessive pronoun of the 'O class in combination with the short form of inalienable relationship terms. This is shown in the following examples.

gor-ii-kɔ	'her husband'
mij-ii-kɔ	'his/her younger sibling'

The suffix -kɔ is quite exceptional. It is considered to be a suppletive form. Possibly the suffix form -kɔ in **gɔrkɔ** 'man' is an old possessive form, which means that the word for man once meant someone's man. Possibly, the word **gaynaakɔ** 'herdsman, cowboy' has been derived from the verb root **wayn-** 'to watch over' combined with the stem of 'cow' reconstructed for Atlantic as ***nak**. This would imply that the consonant [k] in the word **gaynaakɔ** is part of the stem. Another possibility is that the old possessive form -kɔ occurs in the word **gaynaakɔ** which implies that a herdsman (at least at one moment in time) meant someone's herdsman.

7.2.1.7 'O CLASS NOUNS WITH A SUFFIX FROM OTHER CLASSES

A number of nouns which use the concord of the 'O class appear with a suffix of a different class. There are four such classes in Maasina. First, the words ending in a suffix from the NGU class take their concord from the 'O class. The class concord **ⁿgu** has become taboo because it sounds too much like the word **ⁿguugu** 'clitoris, vagina'. This has led to the shift in the class concord from the NGU class to the 'O class. This taboo and the related shift in the class concord exists also in Fuuta Tooro and Jenngel (Tioulenta 1991:200-201). Only a few words denoting female genitals can be referred to with the class concord **ⁿgu**. The following words all come from the NGU class but they take the concord from the 'O class. The only evidence found in Maasina that they came from the NGU class is found in the final vowel -u and the initial prenasalized consonant. The most important evidence for a historical affiliation of these words with the NGU class comes from a comparison of the behaviour of these nouns in Maasina with their behaviour in other Ffulde dialects where they are still used with the concord of the NGU class.

^mbaalu / baali	‘sheep’
ⁿjillu	‘mixture of rice and fresh fish’
ⁿduubu / duubi	‘year’
malu / mali	‘luck, good fortune’
naaku / naaki	‘bee’
ⁿdimu / dimi	‘thoroughbred’
ⁿdonu	‘inheritance, legacy’

These words are further discussed in the section on the NGU class (7.2.7).

Second, words with a suffix of the KA class are frequently referred to with the concord of the 'O class. In Maasina the number of words remaining in the KA class seems smaller than ten. A number of words show variation, i.e. they are sometimes used with the concord of the 'O class, sometimes with the concord of the KA class. These words appear in some other dialects with the concord of the KA class (see section 7.2.13).

gɔɔⁿga	‘truth’
hersa	‘shame, modesty, reserve’
kɔrsa	‘affection, love’
janta	‘history, legend’

The word **naawalla** ‘pain’ ending in **-alla** is found in the KA class in Aadamaawa (Klingenheben 1962:105). The (double) suffix **-alla** is used in Maasina to derive nouns from stative verbs. In Maasina these nouns ending in **-alla** use the concord from the 'O class. The word **naawalla** uses the concord ʔɔ also in Niger and in Burkina Faso according to Zoubko (1980:366).

buuballa	‘coldness’
naawalla	‘pain’
tiidalla	‘difficulty’
gim^mballa	‘Gimballa (region in Mali)’

The nominal suffix **-alla** is perhaps a double suffix combining the suffix of the NGAL class with the suffix of the KA class.

Third, the suffix of the NGE class also occurs sometimes with nouns that take the concord of the 'O class.

tɔɔnaŋⁿge / tɔɔnaŋⁿgeeji	‘insult’
yaŋⁿge / yaŋⁿgeeji	‘celebration, ceremony’

The use of the concord **ⁿge** in other dialects is an indication that these words once belonged to the NGE class. These words are further discussed in the section on the NGE class (7.2.5).

Fourth, a few nouns with a suffix of the plural 'DE class use the concord of the 'O class. These nouns express uncountable concepts.

geese bojel	'cobwebs' (lit: threads of hare/rabbit)
gacce	'reservedness, modesty, scruple'
semte	'shame, embarrassment'

The expression **geese bojel** 'cobwebs' literally refers to a plural "threads of hare/rabbit". The meaning of the compound has a collective aspect. Some of the nouns with a suffix of the 'DE class using the concord of the 'O class are abstract nouns which do not have a singular/plural opposition. Perhaps the nouns have moved from the 'DE class because of a clash between the singular meaning as a collective or abstract of these nouns and the plural meaning of the 'DE class. Nevertheless, a number of abstract nouns can be referred to with the concord of the 'DE class (see section 7.4.3).

7.2.1.8 'O CLASS NOUNS WITHOUT A CLASS SUFFIX

A typical noun formation used to denote the inhabitants of a certain geographical zone is the nominal suffix **-ŋke** which is borrowed from the Mande languages, possibly from Soninke. The following word with the nominal suffix **-ŋke** is a loan-word from Soninke (Tioulenta 1991:349).

kaanaŋke / kaanaŋkɔɔŋe	'chief, leader' Son.: kaanánke
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The words with the suffix **-ŋke** probably ended up using the concord of the 'O class because of the feature [human] in their semantic content. The affix **-ŋke** indicates a person who is associated with or belongs to a place or a group.

fuutaŋke / fuutaŋkɔɔŋe	'person from fuuta (Fuuta Tooro)'
kunaariŋke / kunaariŋkɔɔŋe	'person from kunaari '
maasinanŋke / maasinanŋkɔɔŋe	'person from maasina '
seenaŋke / seenaŋkɔɔŋe	'person from seena '

The nominal suffix is also used to denote ethnic affiliation.

hawsanŋke / hawsanŋkɔɔŋe	'Hausa (person)'
bamananŋke / bamananŋkɔɔŋe	'Bambara (person)'
julanŋke / julanŋkɔɔŋe	'trader, Jula (person)'

The Jula are an ethnic group belonging to the Mande group who are seemingly associated with trading. The same name is found in the word **julaajɔ** also meaning 'trader'.

The noun suffix **-ŋke** 'person of' is also used to denote professional affiliation. In combination with the names of certain types of herds it names the 'herdsman' of that type of herd.

ben^odiŋke / ben^odiŋkɔɔŋe	‘herdsman of ben^odi ’
garciŋke / garciŋkɔɔŋe	‘young herdsman, who guards garci ’

The suffix of these words **-ŋke** is probably borrowed from Soninke but it is applied to Fulfulde nouns. Klingenberg (1963:155) gives an extensive list of nouns formed with this morpheme **-ŋke** in the Aadamaawa dialect. In this dialect these words are further expanded with the suffix **-jɔ**.

Aadamaawa: hawsaŋkeejo / hawsaŋke²en	‘Hausa’
yarbaŋkeejo / yarbaŋke²en	‘Yoruba’
defteriŋkeejo / defteriŋke²en	‘civilized person’ < deftere ‘book’

The formation with the morpheme **-ŋke** appears to be more productive in Aadamaawa than in Maasina.

A large number of nouns which use the concord of the 'O class are loan-words. Some loan-words are integrated into other classes on the basis of the analogy between the last syllable of the loan-word and the form of the class suffix (Tioulenta 1991:175-178).

lopital ^ogal	‘hospital’	< Fr.	l’hôpital
kamsel ^ogel	‘dress’	< Fr.	camisole
butel ^ogel	‘bottle’	< Fr.	bouteille
masiri ^odi	‘adornment’	< Bmb.	màsírí
jate ^ode	‘count’	< Bmb.	jàté

A loan-word may also be integrated taking on an analogical suffix, i.e. receiving an additional Fulfulde class suffix on semantic grounds (Tioulenta 1991:173). Tioulenta demonstrates the semantic analogy between individual words of a certain class. The hypothesis is that the allocation of these loan-words to a certain class only takes place when its meaning is in accordance with the larger semantic groupings within that class. The specific semantic associations that are responsible for the class suffixes of the loan-words below are given in square brackets.

buuseejo ^oɔ	‘butcher’	< Fr.	boucher	[‘O: human]
suleewɔ ^ogɔ	‘shoe’	< Fr.	soulier	[NGO: footwear]
banikɔɔwal ^ogal	‘stork’	< Bmb.	bànikòno	[NGAL: big bird]
tigaare ^ode	‘peanut’	< Bmb.	tigá	[NDE: fruit]
galmaare ^ode	‘spoon’	< Bmb.	gàlàamá	[NDE: utensil]

Most loan-words however have not been given a class suffix and use the concord of the 'O class. The choice of the 'O class as the concord for the loan-words without a suffix is possibly motivated by the occurrence of other nouns without a suffix in that class such as the inalienable forms of the kinship terms like **ɓii** ‘child’ and **ʔabba** ‘father’, and a few words like **suka** ‘young person’, **surba** ‘nubile girl’. There have also been speculations about the semantic connotation of the 'O class to explain the large number of loan-words in this class.

Labatut (1982a:79) proposes to consider the 'O class a non-class, a sort of meta-class whose words escape from being classified, since the content of this class (human beings and God) are classifying subjects themselves. Labatut suggests that the words in the 'O class defy classification like loan-words do.

The hypothesis proposed in this thesis is also based on the semantic grouping of human beings and God with the class suffix of the 'O class. But the hypothesis advanced here is based on a different semantic interpretation of the 'O class concord. The semantics of the class suffix of the 'O class groups nouns denoting "persons". The human content of the nouns with this class suffix gives this class a honorific connotation. By honorific connotation is meant that the content of this class is considered valuable. The human beings described by the words in this class are esteemed and valued, they are held in high esteem. This can be supported by the fact that a number of nouns denoting human beings with a pejorative connotation are found in other classes such as NDU, NDI and NDE.

The concord of the 'O class has extended its semantics: it also groups loan-words and some nouns from other classes. The concord of the 'O class has extended its semantics in the following way: the honorific connotation of the 'O class made this class perfectly suitable to host the loan-words from Arabic. These Arabic words often concern concepts of Islam, a religion very much esteemed by the Fulbe. The Arabic loan-word **ʔalla** 'God' is integrated into the class of human beings which are held in high esteem, because God is also held in high esteem. Therefore names for God, like human beings, are assigned to the class with a connotation of high esteem.

ʔalla	'God'
ʔuraʔaana	'Koran'
ʔalsilaame / ʔalsilaameʔen	'Muslim'
malaaʔika / malaaʔikaʔen	'angel'
hakke / hakkeeji	'sin, fault'
farilla / farillaaji	'duty, obligation'

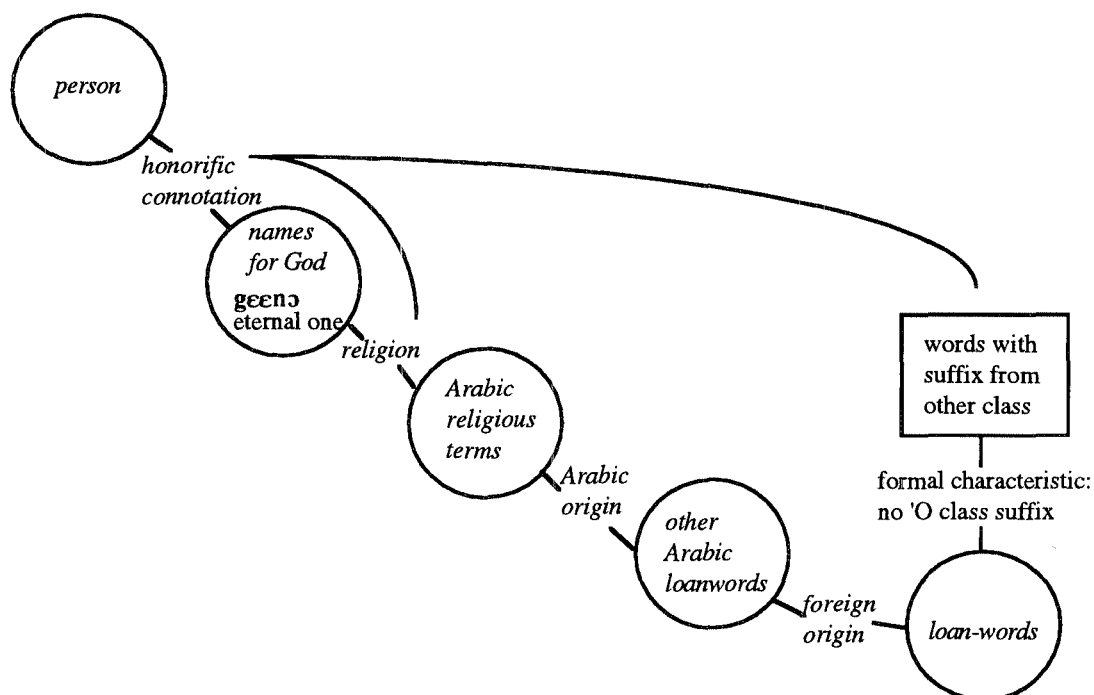
Other loan-words from Arabic also use the concord of the 'O class on analogy with the Arabic religious terms.

biliisa	'nervousness < Ar. kbilis 'devil'
satalla / satalleeji	'water kettle for cleansing oneself'
miskiini / misikim-ŋe	'poor person'
wakkati	'time, moment'
sikkoro	'sugar'
dawla / dawlaaji	'honour, popularity'
ʔaduna	'world'
fayda / faydaaji	'respect, importance'

Other loan-words use the concord of the 'O class on analogy with Arabic loan-words. In the Maasina dialect, many loan-words come from French, Bambara, and Soninke.

French:	ʔalmeeti	'match'	allumette
	butel / butelaaji	'bottle'	bouteille
	weer	'glass'	ver
	mēetere / meeteruuji	'meter'	mètre
	seesi / seesiiji	'chair'	chaise
Bambara:	ku	'yam'	ku
	barma	'metal cooking pot'	barma
	baka	'indigo'	baga
	maafe	'sauce'	maafe
	buuru / buruuje	'bread'	mburu
Soninke:	futte / futteeji	'wedding present, from his to her family'	
	sɔgɔne / sogoneeji	'elbow'	
	jakawalle	'metal, yellow coloured like copper'	
	kanne	'gold'	
	kammu	'sky'	

The following semantic network is proposed for the 'O class.



The honorific connotation of the 'O class can also explain the shift to the 'O class of taboo noun classes such as NGU and probably some pre-Islamic terms in the NGE class concerning the supernatural (see also Mukarovsky 1962b). The change in class from NGU to 'O cannot be more effective than when the negatively conceived taboo concord of the NGU class is replaced by the concord of the 'O class with its respectable, honorific connotation. Loan-words from other languages have imitated the movement of the Arabic loan-words into the 'O class. Thus, the concord of the 'O class has shown the broadening of its contents covering meanings from humans to honorific to Islamic terms to Arabic terms to loan-words.

The meaning of the class suffix still covers only human beings. The expansion of the set of words which use the concord of the 'O class suffix, which historically referred to persons only, is represented in the above semantic network.

The plural formation of the nouns in the 'O class also distinguishes human beings from loan-words that are not human. Human beings in the 'O class take the plural **ŋe** or sometimes **ʔen**. Loan-words in the 'O class that are not human take the plural suffix form **-ji**. There are quite a number of words that take the concord of the 'O class which end in a vowel that cannot be the class suffix of 'O, nor can this vowel belong to one of the classes that changed its concord to 'O because of taboo or other reasons. The plural formation lengthening the final vowel and combining with the plural class suffix **-ji** indicates that these words should be considered to be loan-words. A number of them were not included in the lists of loan-words from Bambara, Soninke, and French occurring in the Maasina dialect as described by Tioulenta (1991). From their appearance however they should be classified as loan-words. The languages from which these words are borrowed are not known at this stage.

bagi / bagiji	'cloth, textile material'
sakiike / sakiraabe	'related person'
ɔkɔlle / ɔkɔlŋe	'young adolescent man'
noone / nooneji	'character'
sakke / sakkeŋe	'leather-worker'
takkalemme / takkalemŋe	'neighbour'
tɔmɔtte / tɔmɔttɔŋe	'human being'
tɛfe	'saddledcloth, shabrack'
kire	'metal, red coloured like copper'
kirke / kirkeji	'saddle (leather)'
kaŋkasi	'aluminium'
poki / pokiʔen, pokiiŋe	'dirty person'
burdaame / burdaabe	'Touareg'
disa / disaaji	'decorative scarf for a man's neck'
si	'kind, characteristic, colour'

There are a number of nouns derived from adverbs of time that take the concord of the 'O class.

jamma / jammaaji	'night'
ɲalɔma / ɲalɔmaaji	'daytime'

These adverbs are temporal predicates: they are derived from conjugated verbs and they still carry verbal inflections like **-ma** of the indefinite conjugational suffix (see section 5.4.9).

Another set of nouns occurring with a concord of the 'O class are the compound nouns based on the morpheme **ɔɔm** 'owner of' which is often shortened to **ɔm**. Such a noun denotes a human being (sometimes God), so it also uses the concord of the 'O class for semantic reasons.

jɔm-sem^mbe, jɔsem^mbe	‘strong person’
jom-suudu / jom-suudu²en	‘partner’
jɔm-galle	‘head of the compound’

Concluding the discussion on the nouns occurring in the 'O class one could say that they can be divided into two subsets. The nouns that take a class suffix of the 'O class all denote human beings. They take their plural from the 'BE class. Another set of nouns in the 'O class have no suffix. They are mostly loan-words. Their affiliation with the 'O class is motivated by the honorific meaning attached to human beings in the 'O class. This supposes that the Arabic loan-words denoting the highly esteemed Islam entered the 'O class because of its honorific meaning. This has a consequence for the dating of the loan-words. It supposes that the Arabic loan-words arrived before the loan-words from Bambara and French. It would suggest that Soninke loan-words that entered the language before the arrival of Arabic did not take the concord of the 'O class. Many forms of the list of Soninke loan-words (Tioulenta 1991:347) are indeed integrated into other Fulfulde classes but this hypothesis needs further verification.

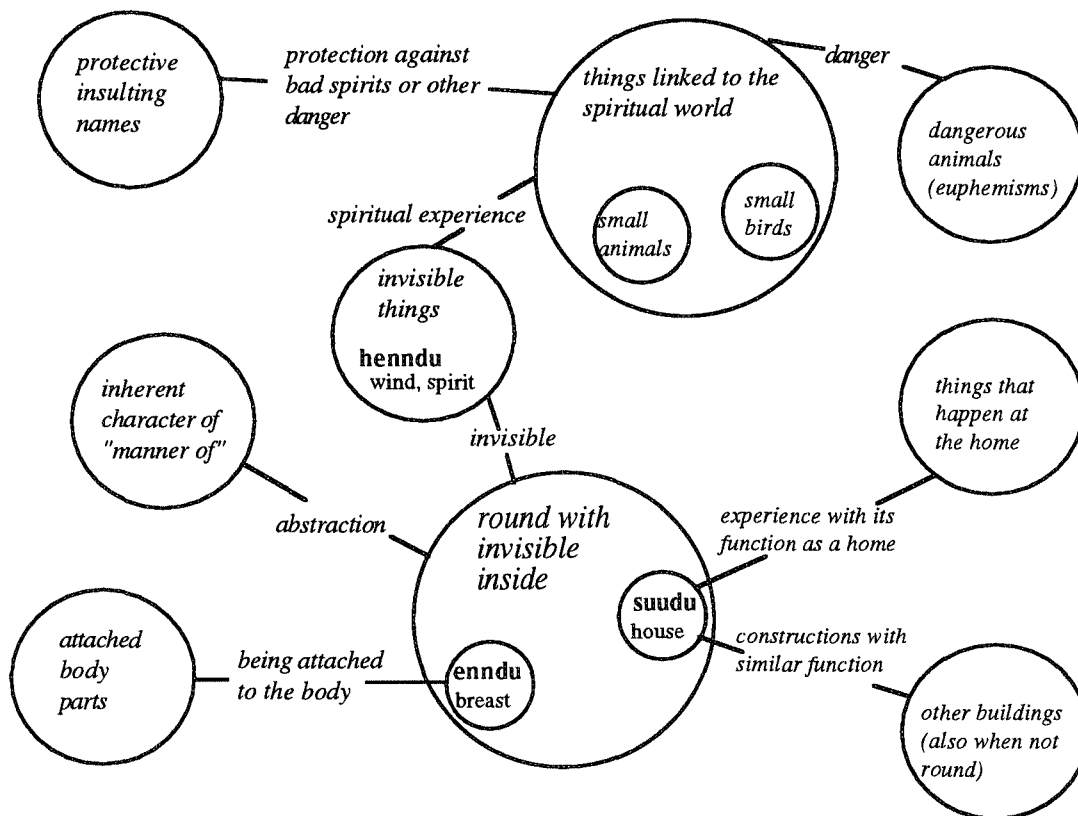
7.2.2 THE NDU CLASS

The semantic content of the words in the NDU class appears to be centered around the concept of a round and hollow form. Many objects in the NDU class are round and have a round hollow space inside which is not directly visible from the outside. Arnott (1970a:75) makes a similar observation when he lists the NDU class as containing circular and cylindrical objects. Words like belly, moon, gourd, mortar, house, pit, pond, and lute have an inside. These objects are sometimes hollow, but the presence of an inside is more recurrent. The word ²enⁿdu ‘breast’ shares the features round with an inside (milk) with other members of the NDU class. The word ²enⁿdu ‘breast’ serves as a bridging context between two semantic domains: round entities with an inside and attached body parts. Other attached body parts in the NDU class are hair, lips, finger and toes. The word **suudu** ‘house, shelter’ which describes a traditionally round structure with an inside motivates the association of the categories of buildings (even when not round) and affairs of the home with the NDU class.

An entity with a hollow shape has an invisible inside. Words for **henⁿdu** ‘wind, spirit’ and **jinnaaru** ‘spirit’ are also in the NDU class. They appear to be grouped here because of their invisible nature. Spirits are known to be invisible in the Fulbe society. One Pullo described spirits as “beings who are just like us, they eat from the same plate and they live in the houses like ours, the only difference is that they are invisible”. This invisible aspect links a number of nouns related to the spiritual world with the NDU class. Other spirit-related terms are amulet, staff, and the pejorative names which are given to protect its bearer from evil spirits. Birds are related to spirits because they can have the same effect on people. The Fulbe say that bad spirits and some birds can cause children to die and they can cause people to become very ill or to become mad. The category of small birds is extended to small animals. Dangerous animals are also in the NDU class, they are often euphemisms. Pretending that dangerous animals are like small animals might be an attempt to diminish their capacity to do evil. Dangerous animals could also be in the NDU class because they are thought of as a possible disguise of evil spirits.

The formation of verbal nouns with the suffix **-du** expressing “manner of” describes the inherent character of action signalled by the verb stem from which the manner noun is derived. This inherent aspect is associated with the meaning “inside” of the NDU class. The word **naam^{du}** meaning both ‘manner of eating’ and ‘food’ is derived from such a verbal noun describing “manner of doing something”.

The scheme below can explain the semantic association of many words which occur in the NDU class. The link between the spiritual world and the subcategory of small animals is not entirely clear because of a lack of knowledge about what belongs to the spiritual world of the Fulbe. Also the occurrence of some words in the NDU class is not yet clear, words like **ḍoyru** ‘cough’, **duniyaaru** ‘world’, **kabaaru** ‘news’ **kurfen^{du}** ‘fan’. The schema obviously can be improved with a better understanding of the culture of Fulfulde speakers. The main point shown here is that the semantic associations that do occur group some nouns in a convincing semantic way which implies that the grouping is not arbitrary or just due to coincidence. The following picture represents a proposal for the network of semantic associations of the NDU class.



<i>round + invisible inside</i>	<i>attached body parts</i>	<i>invisible/spiritual world</i>	<i>small birds</i>
wowru mortar	sal ⁿ du limb	hen ⁿ du wind, spirit	foo ⁿ du bird
hoddu lute	howru knee	jinnaaru spirit	baapaaru cowbird
fun ⁿ du well	ton ⁿ du lip	lewru moon	
huseeru stomach	suku ⁿ du hair	foondu dove	<i>small animals</i>
wuddu navel	fedee ⁿ du finger	sawru staff	faa ^m buru frog
reedu belly	hoibu ⁿ du ankle	talkuru amulet	doo ^m buru mouse, rat
nowru ear			huupaaru tortoise
fulkuru bladder	<i>home affairs</i>	<i>pejorative names</i>	muusuuru cat
ʔen ⁿ du breast	ʔegguru migration	wajnaa ⁿ du ugly one	rawaa ⁿ du dog
suudu house	lamru baptism	dikkuru eldest one	
			<i>dangerous animals</i>
<i>inherent character</i>	<i>buildings</i>		laddeeru lion
<i>"manner of"</i>	jaŋ ⁿ girdu school		suu ⁿ du jackal
naam ⁿ du manner of eating; food	dam ^m bordu wedding house		saafaa ⁿ du leopard
			fowru hyena

All nouns in the NDU class are characterized by a suffix of the NDU class marker. All nouns belonging to the NDU class use suffix forms of the NDU class marker as their concord. The same forms of the suffixes of the NDU class appear as class markers on nouns or as concords on modifiers. This section describes the NDU class suffixes occurring on nouns. The concord is treated in chapter 8. The suffixes that are found in words that belong to the NDU class have the forms **-uru**, **-ru**, **-du**, and **-ⁿdu**.

Arnott allocated these forms to four different "grades" (as shown in Chapter six). The allocation of a suffix form to a particular grade was decided on the basis of the form of the initial consonant and on the basis of the behaviour of the stem in combination with other class suffixes. This was done according to the principle that one stem should occur only with suffixes of one grade. The examples in the following table are taken from the Fulfulde of Maasina allocated to the different grades following Arnott's principles.

suffix form	grade A	grade B	grade C	grade D
-uru	talk-uru (pl. talk-i) 'amulet'			
-ru	wow-ru (pl. boŋ-i) 'mortar'	jinnaa-ru (pl. jinnaa-ji) 'spirit'		
-du	ʔelelel-du (pl. ʔelelel-i) 'flat headed snake'		jaŋⁿgir-du (pl. jaŋⁿgir-ŋi) 'school'	
-ⁿdu	ton-ⁿdu (pl. ton-i) 'lip'		naam-ⁿdu 'food'	ʔen-ⁿdu (pl. ʔen-ŋi) 'breast'

The different suffix forms in grade B, C, and D are identical to the phonologically conditioned suffix forms of grade A. Nevertheless, they must be analyzed with an

independent meaning resulting from a merger between the class marker and the grade markers. The underlying forms of the different suffix forms of the NDU class are given below.

*ru >	-uru after obstruent -ru after vowel -du after [r, l] - ⁿ du after [n]	objective word derivation: object/thing when attached to a nominal stem, unmarked/cognate object when attached to a verbal stem
*q-ru >	V-ru	preceded by long vowel attached to full word, associative derivation: “thing belonging to the NDU class associated with a semantic feature of noun stem”
*r-ru >	-du - ⁿ du after nasal	circumstantial derivation, attached to verbal stem, indicating purpose, intention, mode, productive meaning “manner of” as marker of verbal nouns
*n-du >	- ⁿ du	subjective derivation, attached to verbal stem followed by verbal marker

This analysis differs from that presented by previous authors who discussed the grade system in giving independent semantic status to the suffixes characterizing the different grades. The independent semantic status does not imply that the different suffix forms are monomorphemic. Their underlying structure can contain two morphemes: the class marker and the grade marker. Only the suffix of the objective word derivation (grade A) is monomorphemic. It is characterized by the absence of a grade marker and consists only of the class marker (see chapter 6).

Examples of the verb root **laḡ-** ‘shave’ combining with all the different underlying suffix forms of the NDU class demonstrate the independent status of the four suffix forms. The different types of word derivation are further explained and exemplified in the sections below.

	laḡ-	‘shave’
grade A: objective	lam-ru	‘naming feast when baby is shaved’
grade C: circumstantial	laḡ-u-du	‘manner of shaving’
grade B: associative	laḡ-oo-ru	‘NDU who is shaving’
grade D: subjective	laḡ-u-ⁿdu	‘NDU who has shaved’
	laḡ-aa-ⁿdu	‘NDU who has been shaved’

The analysis proposed arrives at a four-way distinction between the class suffixes, like Arnott and Klingenheben. The difference is that formerly these grades were merely distinguished on the basis of their form and complementary distribution. An investigation of the possible meaning of the class suffixes has also revealed the meaning of the four suffix forms. Different semantic word derivations must be attributed to the four suffixes. The true status of the different suffixes is established by combining the study of form with the study of meaning. The four suffixes are distinctive poly-morphemic forms combining the independent meaning and form of the grade marker with the independent meaning and form of the class marker.

7.2.2.1 THE GRADE A SUFFIX FORMS **-uru -ru -du -ⁿdu**

As stated above, all possible suffix forms occur as phonologically conditioned allomorphs of the suffix form ***ru** in grade A. The allomorph **-uru** is always found after stems ending in two consonants and after stems ending in one consonant which is an obstruent. The vowel initial allomorph prevents ill-formed syllables because a syllable should not end in two consonants and the syllable coda cannot be less sonorant than the onset of the next syllable.

doo^mb-uru / doo^mb-i	‘rat, mouse’
[?]egg-uru	‘move, migration’
siŋ-uru	‘civil wedding ceremony’ < Fr. signer, signature

The allomorph **-uru** is regarded as being made up of the suffix ***-ru** preceded by an epenthetic vowel which has assimilated totally to the vowel in the class suffix **-ru**. For this reason Arnott did not treat **-uru** as a separate allomorph of the NDU class suffix but as **-u-ru**: the suffix **-ru** preceded by an “anaptyctic” vowel. Although the first vowel is put between hyphens, used to indicate a morpheme boundary, it is not clear whether Arnott gives this [u] vowel the status of a morpheme. The hyphens in his example **wukk-u-ru** ‘bunch’ (Arnott 1970a:55) probably indicate that the “anaptyctic” [u] belongs neither to the morpheme of the stem, nor to the morpheme of the suffix. In this study, the suffix form **-uru** will be considered as one indivisible form even though historically its first vowel is derived from an epenthetic vowel which has assimilated to the vowel in the following syllable.

The allomorph **-ru** occurs after stems ending in a single consonant that is [+continuant]. The stems found in Maasina with the allomorph **-ru** in grade A all end in the consonants [w], [y], and in [m]. These are the only consonants that can appear before [r] according to the sonority hierarchy (see section 4.4.4).

saw-ru / cabbi	‘stick’
wow-ru / bofi	‘mortar’
now-ru / noppi	‘ear’
how-ru / koppi	‘knee’
ɖoy-ru	‘cough’
lam-ru	‘name giving ceremony’

A [+continuant] consonant whose appearance before [r] would violate the sonority hierarchy can be shown to change to one of the above mentioned permissible glides [w] and [y]. For example: The stem **nɔf-** ends in a continuant and combines with the allomorph **-ru**. This would result in the ill-formed sequence ***fr** which would violate the sonority hierarchy. A repair rule changes the syllable final [f] to [w] (see section 4.5.2).

*nɔf-ru > now-ru	‘ear’	cf. nɔf-el	‘little ear’
*hɔf-ru > how-ru	‘knee’	cf. kɔf-el	‘little ear’

Evidence for an underlying stem final [f] is found in the combination of the stem with the diminutive suffixes where the stem final [f] appears on the surface. The word **howru** ‘knee’

is derived from the verb **hofude** ‘to bend’ with the objective word derivation of grade A. The word **howru** ‘knee’ is paraphrased as the object of bending.

The allomorph **-du** occurs after the alveolar consonants [l] and [r]. Onset strengthening occurs to prevent the ill-formed sequence *lr changing the suffix initial consonant of *-ru to [d].

wor-du / gor-i	‘thumb’
ʔelelel-du / ʔelelel-i	‘flat headed type of lizard’

The allomorph **-ⁿdu** in grade A of the class suffix NDU is always preceded by a stem ending in an alveolar nasal consonant [n]. The prenasalized allomorph **-ⁿdu** results from onset strengthening of the suffix initial consonant in *-ru to [d]. This rule repairs the sonority hierarchy of the incorrect sequence *nr. In addition, this suffix initial voiced plosive [d] has become prenasalized after a nasal.

hen-ⁿdu / ken-i, ken-uuli	‘wind, spirit’
ton-ⁿdu / ton-i, ton-dī	‘lip’

There is confusion about the analysis of the two words above. The word **tonⁿdu** is classified as grade A by Arnott (1970a:123), it is classified as grade C by Klingenheben (1963:62). These different analyses indicate that the criteria for the different grades are not very clear. Arnott and Klingenheben base their analyses on the plural forms. Alternative plural forms for this word occur in Maasina. The plural forms in the different dialects show that a reanalysis of these words has been going on.

	Maasina	Klingenheben’s Aadamaawa	Arnott’s Gombe
‘thumb’	wor-du / gor-i	wor-du / gor-dī	wor-du / gor-dī
‘lip’	ton-ⁿdu / ton-i, ton-dī	ton-ⁿdu / ton-dī	ton-du / ton-i
‘wind’	hen-ⁿdu / ken-i	hen-ⁿdu / ken-i	hen-ⁿdu / ken-i
‘breast’	ʔen-ⁿdu / ʔen-dī	ʔen-ⁿdu / ʔen-dī	ʔen-ⁿdu / ʔen-dī

In this study the words **wor-du** ‘thumb’, **ton-ⁿdu** ‘lip’, and **hen-ⁿdu** ‘wind’ are all analyzed as grade A words, the word **ʔen-ⁿdu** ‘breast’ is analyzed as a grade D word. This analysis differs from previous ones because the automatic prenasalization rule applied to voiced plosives after a nasal is not accepted by some authors.

Arnott’s analysis of the word **ton-ⁿdu** is “**ton-du**”. He considers this stem to end in a single nasal [n] and the suffix to start with a (not prenasalized) voiced plosive [d]. He has morphological reasons for this analysis. Recall that Arnott’s grade A only contains the allomorphs **-ru** and **-du**. Arnott places the suffix of the word “**ton-du**” ‘lip’ in grade A because of the pairing with the grade A suffix form **-i** in the plural **ton-i**. He assumes that the underlying form of the suffix is *ru which becomes **-du** on the surface after the stem final [n] in “**ton-du**” (his orthography). The axiom that one stem should combine with suffix forms of only one grade compels Arnott to analyze the nasal plosive sequence in **ton-ⁿdu** as **n-d**. In Arnott’s analysis, the prenasalized suffix form **-ⁿdu** is analyzed as a grade D suffix.

(Grade D words take the plural suffix form **-ɗi**.) This assumption is true for a grade D word like **ʔen-ⁿdu** ‘breast’ with the plural form **ʔen-ɗi**. However, the suffix form **-ⁿdu** is also found in paradigms of other grades. Analyzing the suffix **-ⁿdu** as grade D in the paradigm: **hen-ⁿdu** ‘wind’ **ken-i** ‘winds’, **ken-el** ‘little wind’, **ken-on** ‘little winds’ contradicts the rule that one stem combines with one grade. Arnott (1970a:120) does not have to analyze this paradigm as grade A with an exceptional grade D singular form **hen-ⁿdu** ‘wind’ when this singular form can be explained by a rule of head strengthening (see section 4.5.1) and automatic prenasalization (see section 2.3.3).

Klingenheben (1963:62) puts the word **ton-ⁿdu** in his third grade [“dritte Stufe”] which is equal to Arnott’s grade C. He describes the automatic phonetic rule of prenasalization and he represents the prenasalization of a voiced plosive consonant after a nasal consonant in his orthography. The (underlying) form of the NDU class suffix in grade C is **-du**, also in Klingenheben’s analysis. One could infer that he sees **-du** as the underlying form of the suffix in the words **ʔen-ⁿdu** ‘breast’ and **ton-ⁿdu** ‘lip’ which he analyzes as grade C. The reason why Klingenheben puts **ton-ⁿdu** in grade C is its plural **ton-ɗi** in Aadamaawa. This is in agreement with the general principle that one stem combines with one grade, because **-ɗi** can only be the plural suffix of grade C and grade D words. The following table summarizes the analyses of the words **hen-ⁿdu** ‘wind’, **ʔen-ⁿdu** ‘breast’, and **ton-ⁿdu** ‘lip’ by Arnott and Klingenheben.

Arnott:	grade A	/hen/ + /ru/	> [hen- ⁿ du]	‘wind’
	grade A	/ton/ + /ru/	> [ton-du]	‘lip’
	grade D	/ʔen/ + / ⁿ du/	> [ʔen- ⁿ du]	‘breast’
Klingenheben:	grade C	/ton/ + /du/	> [ton- ⁿ du]	‘lip’
	grade C	/ʔen/ + /du/	> [ʔen- ⁿ du]	‘breast’

A comparison of the suffix forms in words of the same paradigm is an important diagnostic for determining the grade of the singular class suffix. The different plural forms **ton-i**, **ton-ɗi** ‘lips’ show that reanalysis is taking place in the different dialects. Perhaps the grade A plural form **ton-i** ‘lips’ has been replaced by the grade D plural form **ton-ɗi** ‘lips’ in an effort to keep a clear-cut relation between the surface suffix form and the suffix grade: paradigm levelling from the singular-plural suffix pair **-ⁿdu/-i** to **-ⁿdu/-ɗi**.

The determination of the grade of a suffix has also been complicated by the mixing of both underlying and surface forms of the suffixes as classifying entities for the different grades. In the case of a combination of a stem ending in an alveolar nasal [n] with a class suffix beginning with any of the consonants {rV, dV, ⁿdV}, the rules of prenasalization and onset strengthening always result in the same surface form: [n-ⁿdV], a so-called geminate prenasalized alveolar consonant. So it is not possible to deduce the “underlying allomorph” of the class suffix from the surface form, if such a concept could exist. There is also a theoretical objection to the construction of “underlying allomorphs”. Only a morpheme, and only one morpheme, can underlie allomorphs. If different underlying forms have to be constructed for the derivation of different suffix forms at the surface, then they are no longer allomorphs but different morphemes. And with the recognition of the grade marker, the suffix forms found in the different grades are indeed morphologically distinct.

7.2.2.2 THE GRADE B SUFFIX FORM -ru

The suffixes of the NDU class in grade B are preceded by the associative grade marker *ɸ. This grade marker is most often realized by the lengthening of the stem final vowel. The stems in grade B words are full words. The grade B words express any meaning associated with the NDU class (as portrayed in the semantic network), which has a semantic association with the noun that serves as its stem.

santaa-ru / santaa-ji	‘older Koran student’
bolii-ru / bolii-ji	‘bottle shaped calabash’
fusunaa-ru / fusunaa-ji	‘young Koran student’
buguu-ru / buguu-ji	‘grass hut’
goŋⁿgoo-ru / goŋⁿgoo-ji	‘barrel’
duniyaa-ru	‘world’

Many of the above words are loan-words integrated into the NDU class by the suffix of the associative word derivation. The Bambara word **búgú** ‘grass hut’ (Tioulenta 1991:330) is integrated to the NDU class because it describes a kind of house. Thus, a **buguuru** ‘grass hut’ can be paraphrased as “a house like a grass hut”. The association between the derived nouns and the words which serve as the stem using the associative word derivation is mostly complete. The barrel **goŋⁿgooru** seems to be a word where the association between the stem and the word formed with it is not complete. Possibly, it can be paraphrased as “round thing with inside associated with the sound **gɔŋⁿgɔ** (that it makes when it rolls or when it is beaten)”.

7.2.2.3 THE GRADE C SUFFIX FORM -du

Nouns with a suffix allomorph of grade C combine with the grade marker of the circumstantial word derivation. The circumstantial grade marker *r is derived from the same form as the circumstantial extensions -ir- or -r-. The following nouns are derived from verb stems that contain circumstantial extensions -ir- or -r- in combination with the middle voice marker -ɔ-. They describe locations or instruments. The verb stem in these nouns expresses the purpose of those places or instruments, it indicates what they are used for.

jaŋⁿgirdu / jaŋⁿgirdi	‘school’	jaŋⁿg-u-de	‘to learn, to read’
dam^mbordu / dam^mbordfi	‘wedding house’	dam^mb-aa-de	‘spend honeymoon’
sappordu	‘index finger’	sapp-aa-de	‘to point’
loɔpordu	‘iron peg, prevents cloth beam from unrolling’		

The suffix -du expressing purpose or manner can also be found attached to verb stems without the actual presence of the circumstantial extension in the stem.

hod-du / kolli	‘lute’	hod-u-de	‘play on strings’
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Klingenheben (1963:64) suggests a relation between the word **hoddu** ‘lute’ and the verb stem **hɔɔl-** ‘to make noise’ in Aadamaawa. Tioulenta (1991:302) proposes a link between it and the verb stem **hɔɔf-** ‘to play a stringed instrument’. The latter etymology is more likely.

The meaning of the stem combined with the meanings of the circumstantial extension and the class marker result in a paraphrase of **hoddu** 'lute' as "round thing with inside (NDU) for the purpose of (*r) playing its strings (**hɔd-**)".

The hypothesis is that the suffix form **-du** is phonologically conditioned by the occurrence the circumstantial grade marker *r before the underlying form *-ru. This suffix form **-du** carries the meaning of both the NDU class and the circumstantial grade marker.

The paradigms of the words **suudu** 'house' and **reedu** 'belly' seem to combine with both vowel initial suffixes of the objective word derivation (grade A) and with suffixes of the circumstantial word derivation (grade C). The final consonant alternation of their stems indicates that the (historical) derivation of this word is complicated.

suudu / cuud'i	'house'	reedu / deedi	'belly'
cuur-el / cuur-oy	'little house'	deer-el / ⁿdeer-oy	'little bellies'
cuur-al / cuur-eele	'big house'		

The word **suudu** 'house' is derived from the verb stem **suud-** 'hide' with the suffix **-du** marking the circumstantial word derivation. Its underlying form is ***suud^fdu**. The stem final consonant [**d^f**] has assimilated to the suffix initial consonant [**d**] resulting in the form ***suuddu**. The geminate consonant [**dd**] is shortened to avoid the marginal syllable structure CVVC. The meaning of **suudu** 'house, hut' must be paraphrased as "round thing with inside (NDU) for the purpose of (*r) hiding or taking shelter (in it)". The word **reedu** 'belly' is related to the verb **reed-u-de** 'to be pregnant'. Possibly the paraphrase of belly is "round thing with inside used for being pregnant". The diminutive forms of these two words are exceptional. The consonant [**d**] resulting from a merger between the stem final consonant and the suffix initial consonant has been reinterpreted as the stem final consonant. It changed to [**r**] as a result of weakening in inter vocalic position. The diminutive forms of **suudu** 'house' and **reedu** 'belly' have been reanalyzed as grade A forms.

There is a productive word formation with the suffix **-du**. The suffix **-du** is used to form verbal nouns which express the manner in which the action or process expressed by the verb is performed. The meaning "manner of" is a combination of the abstraction of the semantic association "inside" of the class marker NDU (inherent character) with the meaning of the circumstantial extension describing the purpose, intention or mode of a concept. The inherent mode of a verb is the manner in which the verb is performed.

dod-du	'run, course; manner of running'	dog-ude	'to run'
yaa-du	'walk, going, journey; manner of walking'	yaa-de	'to go'

The word **doddu** 'course' has cognate forms in Pulaar [FT] **dogdu** and Aadamaawa **doggudu** that show the stem final [**g**] that has assimilated to the following [**d**] in Maasina to prevent the ill-formed sequence ***gd**.

Verbal nouns, such as the infinitive, always take the suffix with a plosive initial consonant of grade C. The form **-du** attached to verb stems forms a verbal noun indicating 'the way of, the manner of'. This regular derivation is also found in Pulaar which is described by Paradis (1986:50).

Pulaar	yaadu	‘way of going, walk’ (“marche”)
	dogdu	‘way of running; course’

The word **jaamⁿdu** ‘food, staple food’ in Maasina is explained by a semantic shift from the way of eating, via eating habits, to the food that is habitually eaten. The word **jaamⁿdu** denotes food that is the main staple, i.e. rice or millet. The suffix form **-du** of the circumstantial derivation is automatically prenasalized after a nasal consonant. So the suffix form **-ⁿdu** is here an allomorph of the suffix **-du**.

Maasina		Pulaar:	
jaamⁿdu	‘food; way of eating’	jaamdu	‘way of eating’ (“manière de table”)
jaamude	‘to eat’	jaamde	‘to eat’
jaamri	‘cereals; rice’	jaamri	‘food’

The word **jaamⁿdu** has the meaning ‘way of eating’ in Pulaar. In Maasina the word **jaamⁿdu** has extended its meaning from ‘way of eating’ to ‘food’. The meaning of the suffix **-du** as “way of, manner of” occurs in a regular derivation both in Fuuta Tooro and in Maasina. The word **jaamri** has the meaning ‘food’ in Fuuta Tooro. Its meaning has been specialized to ‘cereals, especially rice’ in Maasina. Possibly, the word **jaamⁿdu** has changed its meaning to ‘food’ after the word **jaamri** lost its general meaning for ‘food’ in Maasina. This supposes that a meaning extension from “how you eat” to “what you eat (habitually)” is a plausible semantic shift. The semantic shift of the word **jaamⁿdu** ‘food’ can explain why this meaning is difficult to place in the NDU class.

7.2.2.4 THE GRADE D SUFFIX FORM **-ⁿdu**

The suffix form **-ⁿdu** marks the subjective word derivation and is identical in form with the subject concord of the NDU class. Words derived using the suffix **-ⁿdu** describe the subject of the related verb. Transparent subjective word derivations are participles which can combine with all relative verbal conjugations and the past tense marker.

A number of nouns derived using the subjective word derivation have a meaning that is less transparent. Semantic shifts and/or loss of the related verb forms are thought to be responsible for this non-transparency. If analyzed correctly, some of the following words are rather cryptic paraphrases for the concepts they describe. This might be a reflection of former taboos in the Fulfulde society.

that which resembles (a human being):		
waaⁿdu / baadi	‘monkey’:	waa-de ‘to resemble’
that which is passed by in a course:		
rawaaⁿdu / dawaadi	‘dog’:	raw-a ‘pass by in a course’
that which passes:		
salⁿdu / caldi	‘body parts/body’	sal-a ‘pass’
that which has been shown nails:		
saafaaⁿdu / caafaadi	‘leopard’:	saaf-a ‘show nails’
that which has wings but not really (it can fly but has no feathers):		

wilwilⁿdu / bilbildi	'bat'	wil-e-wol	'wing' [Nigeria]
that which is being buttoned (nail = button?):			
fed-ee-ⁿdu / pedeeli	'finger'	fed-u-de	'to button'
that which springs water:			
fun-ⁿdu / ful-li	'pit, well'	ful-de	'to spring (of water)'
that which makes noise:			
hoo-ⁿdu / kool-i	'finger'	hool-a	'make noise' [Adamaawa]

The words **funⁿdu** 'pit, well' and **hooⁿdu** 'finger' show an assimilation of the stem final consonant [l] to the initial nasal part of the suffix **-ⁿdu**. This is confirmed by the related forms **fulⁿdu** 'pit' in Adamaawa and in Fuuta Jallon, and **hoolgo** 'nail' in Maasina.

An indication that these words were taboo might be the number of synonyms that they have. Examples of synonyms for 'dog' are the words **bilaaru** and **rawaaⁿdu**. The words **caldε** and **terdε**, plural forms of **salⁿdu** 'member' and **tergal** 'member', refer to the body. Wild animals like the lion and the hyena are often given many different descriptive and euphemistic names in the different dialects of Fulfulde. The lion is called **laddeeru** "dangerous animal of the bush" or **rawaaⁿdu ladde** "dog of the bush". The paraphrase for **saafaaⁿdu** 'leopard': "that which has been shown nails" could have described a claw, by metonymy the meaning of the claw might have been extended to the whole animal.

The speculations about these etymologies may be confirmed by future linguistic anthropological research into the cultural history of the Fulbe. Questions that need to be investigated from an anthropological point of view are whether the image of the dog is as slow as is suggested here, and whether a word like body is taboo. Informants in Maasina indeed often showed some shyness when I asked for the word for body. The position taken here is that the interpretation of these words as participles is at least phonologically and morphologically possible. The following words are examples for which no related verb root has been found.

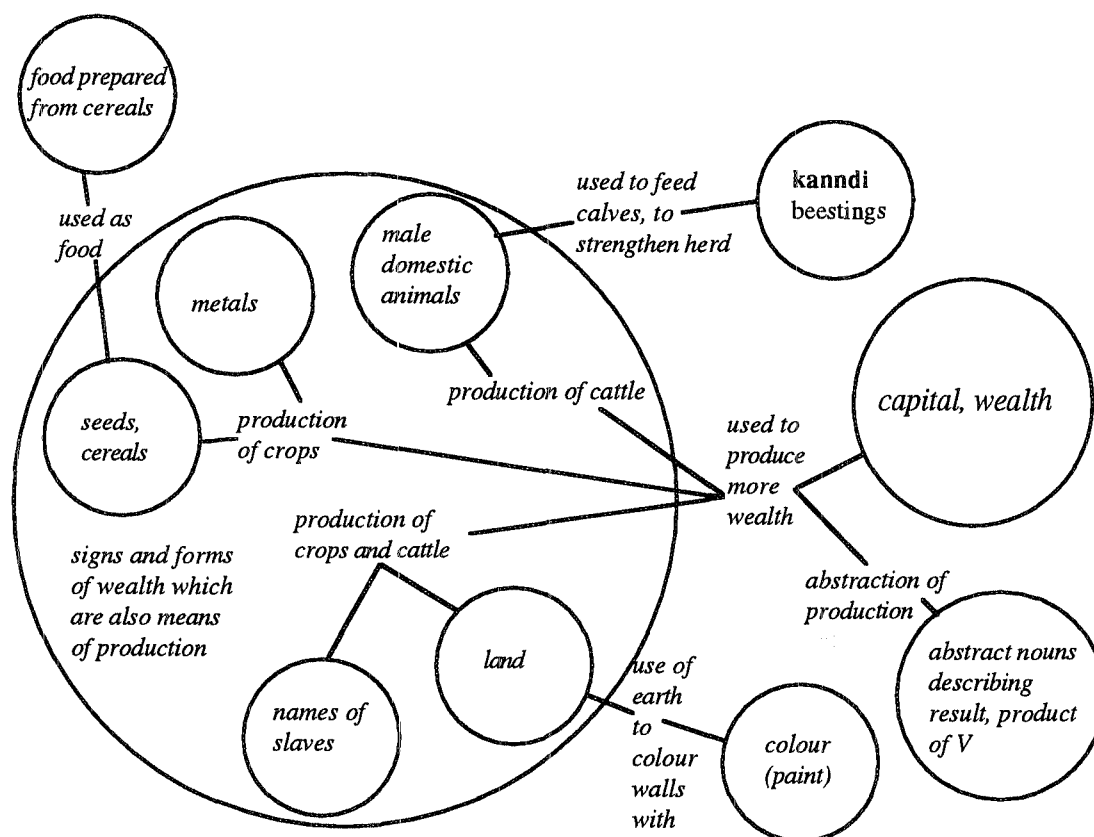
wijan-ⁿdu	'braids of Fulbe men'
kurfen-ⁿdu / kurfenⁿduuji	'fan'
?en-ⁿdu / ?endi	'breast'
weeⁿdu / beeli	'pond'
fooⁿdu / pooli	'bird'
holbuⁿdu / kolbuli	'ankle'
sofbuⁿdu / cofbuli	'corner; elbow'
sukuⁿdu / cukuli	'hair of head'
suuⁿdu / cuuli	'jackal'

These words show every phonological and morphological characteristic of a verbal participle, although the related verb is not (yet) known. The claim is that their etymology should be explained as having a verbal source.

7.2.3 THE NDI CLASS

The members of the NDI class belong to the following semantic categories: domestic male animals, seeds and cereals, metals like iron and steel (**ɓaleeri** ‘very hard and strong kind of iron’), land, the word for maid, and some abstract nouns. A possible radial structure around the idea of “capital” could link the different semantic groups in the NDI class. Capital is defined here as “wealth or property that may be used to produce more wealth”. The word **jawdi** is a polysemous word meaning ‘wealth’ and ‘cattle’, i.e. all the cattle owned by one owner (either a person, a family or a lineage). The domestic male animals are used to breed, to produce more cattle. Seeds can be sown to produce more grain (cereals). Land is a necessary asset for the production of cattle and cereals. Iron may be used to improve the production of cereals. The metals which are not used for agricultural tools like gold and copper are not in the NDI class in the Fulfulde of Maasina. Names of slaves like **pulloori** are also found in the NDI class. This is because slaves are associated with wealth. This association is also described by Riesman (1992:60) who states that slaves (**maccuɓe**) were classed as a form of wealth (**jawdi**). Several associations could explain the presence of the word **ᵐboomri** ‘maid, (strong) nubile girl’ in the NDI class. Possibly, the word **ᵐboomri** is grouped in this class via the concept of “sign of wealth”. It can also be associated with slave names, since the word evokes ideas of a strong, rough and somewhat masculine girl, strength and roughness being associated with the social class of (ex-)slaves. The meaning “product, result of” can be attributed to the abstract nouns in the NDI class. This formation of a deverbal noun expressing the result of the verb explains the membership of words like **leydi** ‘land’ and **ᵐboddi** ‘snake’ in the NDI class. The etymology of the word **leydi** ‘land, earth’ is a deverbal noun paraphrased as the “product of clearing the bush”. The taboo word **ᵐboddi** ‘snake’ is in the NDI class because of its etymology as a “product, result of taboo”. The word **ᵐboddi** ‘snake’ is derived from the verb **wodude** ‘to ban, to put a taboo on something’. Thus the following network of semantic associations is proposed for the semantic grouping of nouns in the NDI class.

<i>capital, wealth</i>		<i>domestic male animals</i>	<i>seeds</i>		<i>signs of wealth</i>		
jawdi	cattle, wealth	ᵐgaari	bull	niiri	cereals	ᵐboomri	maid
ɓeydaari	increase	ᵐjawdiri	ram	gawri	millet	kanᵐdi	beestings
		korboori	stud	ʔaawdi	seed	ᵐjumri	honey
<i>product, result</i>		ᵐdamᵐdi	he-goat	bamᵐbaari	maize		
ᵐjob-di	wages					<i>metal</i>	
puuddi	henna	<i>slave names</i>		<i>land</i>		ᵐjamᵐdi	iron
ᵐbuuddi	swelling	pulloori		leydi	land, country	cardi	silver
needi	education	ɓeydaari		ᵐjaareeᵐdi	sand	ɓaleeri	steel
ʔiwdi	off-spring						
ᵐboddi	snake						



Semantic associations in the Fulfulde language are to a large extent culturally defined. Independent evidence from the study of the culture of the Fulbe (for which the study of the language of the Fulbe is a great tool) is necessary for their verification. This study restricts itself to the description of different semantic groupings of nouns within one class and it provides only provisional proposals for the reasons of the semantic grouping of meanings in a Fulfulde noun class.

That these semantic associations are subject to constant reanalysis is demonstrated by semantically motivated shifts of class membership. For example, the word **kanne** 'gold' is in the 'O class in Maasina because it is a loan-word. The word **kanneeri** 'gold' is put in the NDI class in Ringimaaji because it is thought of as a metal and other metals belong to NDI class. Likewise, **maaro** 'rice' is in the NGO class in Maasina possibly based on the perception that it is associated with the river. The word **maaroori** 'rice' is put in the NDI class in the Fulfulde of 'Yola (Nigeria) because it is classified with other cereals. These differences show that different dialect groups classify the same entities differently according to the way they use, experience or interact with these entities.

The words in the NDI class are found with five different surface forms of the class suffix, i.e. **-iri**, **-ri**, **-di**, **-ⁿdi**, and **-ⁿji**.

suffix forms of NDI class

grade A	*-ri	objective word derivation; allomorphs -iri, -ri, -di, - ⁿ di
grade B	*-q-ri	associative word derivation; surface form -ri preceded by vowel length
grade C	*-r-di	circumstantial word derivation; “process and result, product of”; surface form -di
grade D	*-n-di	subjective word derivation; allomorphs - ⁿ di and - ⁿ ji

The following table shows the general pattern of suffix forms allocated to the different grades in the NDI class.

	A	B	C	D
-iri	^m badd-iri badd-i ‘young bull’			
-ri	^m boom-ri boom-i ‘maid’	layyaa-ri layyaa-ri ‘Tabaski ram’		
-di	^m buul-di buul-i ‘white faced bull’		nee-di ‘education’	
- ⁿ di	con- ⁿ di ‘flour’ con-al ‘bit of flour’			d ^ʒ aa- ⁿ di d ^ʒ aal-li ‘pack-ox’

The gaps in the table represent the absence of nouns with these phonologically predictable suffix forms in the grade B, C, and D. The following sections discuss their distribution over the different grades, and thus the different meanings which they contribute to word derivations.

7.2.3.1 THE GRADE A SUFFIX FORMS -iri -ri -di -ⁿdi

The suffix forms of the objective word derivation differ according to the phonological context in which they occur. In the majority of words these forms are predictable. The suffixes of the objective word derivation occur on plain noun stems. In combination with verb stems, they denote the unmarked object of that verb.

The vowel initial allomorph -iri is found following stems ending in a consonant or a consonant sequence that cannot precede the initial consonant [r] of the underlying suffix form of grade A: *ri. The allomorph -ri occurs after stems ending in a segment which is at least as sonorant as [r], i.e. a vowel, a glide or the bilabial nasal [m]. The allomorph -di occurs following stems ending in an alveolar continuant [l] or [r]: this is to restore the correct order of sonority in the consonant sequence. The allomorph -ⁿdi occurs after stems ending in a nasal other than [m]. The following words contain a nominal stem.

Nominal stems with objective word derivation:

lacc-iri	‘couscous of millet’
ⁿgaa-ri / gay, gey	‘bull; male calf’
ⁿgaw-ri / gafæele	‘millet / sorts of millet’
col-di / coli	‘bull with small dark spot’
car-di	‘silver’
kan-ⁿdi	‘beestings’
con-ⁿdi	‘flour, powder’

The following examples show the objective word formation of deverbal nouns in grade A.

Verbal stems with objective word derivation:

unmarked object of verb		verb	
^ʔuj-iri / ^ʔuji	‘castrated bull, bullock, ox’	^ʔuj-u-de	‘to castrate’
lett-iri / letti	‘bull with one vertical and one horizontal horn’	lett-u-de	‘to squint’
ḡeem-ri	‘yearly falling of water level’	ḡeeḡ-u-de	‘to dry (up)’
ⁿjaay-ri	‘plain’ (width)	yaaj-u-de	‘to be broad, wide’
ḡaam-ri	‘cereals’	ḡaam-u-de	‘to eat’
ⁿjiḡ-iri	‘dough, paste’	jiḡ-u-de	‘to mix’
diiḡ-iri	‘dough, paste’ [Duwansa]		
ⁿdem-ri	‘rice’	rem-u-de	‘to cultivate’
^mbinⁿd-iri	‘writing’	winⁿd-u-de	‘to write’
ⁿjuum-ri	‘honey’	yuum-u-de	‘to collect honey’
ḡuum-ri	‘cold’ as euphemism for ‘venereal disease’	ḡuuḡ-u-de	‘to be cold’

7.2.3.2 THE GRADE B SUFFIX FORM -ri

The suffix form **-ri** marks the associative word derivation. It is added to full words. The last vowel of the stem is mostly lengthened. The associative word formation indicates that the object denoted by the class marker (here bulls or rams) have a semantic association with the word that serves as its stem.

Associative word derivation:

nayiri / nayiji	‘four year old bull’	nayi	‘four’
tatiiri / tatiiji	‘three year old bull’	tati	‘three’
sappoori	‘mature bull, ten years old’	sappo	‘ten’
layyaari	‘ram bought for Tabaski’	layya	‘Tabaski’
terkaari	‘bull with more colours’	*terka	

The word **korboori/korbooji** ‘breeding bull, stud bull or breeding he-goat’ is derived from the verb **ħorbaade** ‘to be powerful’ with the agentive word formation which is formed with the marker of the ‘O’ class. The presence of the suffix of the KA class in the stem of **terkaari** ‘bull with more colours’ could indicate that the stem represents a type of blanket since only blankets are found with the suffix form **-ka**. The long vowel [aa] in the following words

could be a class marker **-a** (also of the KA class) or the final vowel [a] of a loan-word which is lengthened by the associative word derivation. The exact etymology of the following three words is not clear.

bottaari / bōttaaji	'lunch'	wōtt-aa-de	'to lunch'
kaccitaari	'lunch'	kaccit-aa-de	'to lunch'
ḡeydaari	'increase'	ḡeyd-u-de	'to increase, to augment'

Possibly the vowel [a] is a marker of the KA class preceding the suffix **-ri** of the NDI class. This would mean that the names for the meals have shifted from the KA class in which human artefacts are grouped to the NDI class in which cereals are grouped. Since these meals are both prepared by humans and made from cereals, both perspectives are possible. An increase (in wealth) is produced by people and it is also a form of wealth.

7.2.3.3 THE GRADE C SUFFIX FORM **-di**

The verbal stems combining with the suffix form **-di** of the circumstantial word derivation denote concepts that describe both the process and the result of the verb from which they are derived. The meaning "product, result" is associated with the marker **-di** of the NDI class. The meaning "process of" is contributed by the circumstantial grade marker indicating the "mode" in which the verb is performed.

Circumstantial word derivation: process and result:

kaad-di	'ending'	haad-u-de	'to stop, not go further'
nee-di	'education'	neh-ude	'to educate'
maa-di / maadiiji	'building'	mah-u-de	'to form, to build'
^mball-u-di	'help'	wall-u-de	'to help'
ⁿjob-di	'negotiated wages'	yōḡ-u-de	'to pay' (negotiate pay)
kaart-u-di	'saliva, spitting'	haart-aa-de	'to clear throat, to spit'

The assimilation of the stem final consonant with the suffix initial consonant results in an alveolar [d] in the following two words which also describe the result and process of the related verb stem.

*ḡuut+di > ḡuuddi > ḡuudi	*sōk+di > *cokdi > coddī		
ḡuudi, ḡuuddi	'swelling'	coddī	'blackened lips and gums'
ḡuut-u-de	'to swell'	sok-u-de	'to blacken by piercing'

Not all the words are straight forward examples of derivations of a verb showing the clear meaning of the nominalization "process and product, result" of the action expressed by the verb. More detailed semantic descriptions of the following words are needed to describe the "mode, purpose or intention" that occurs in these words.

		process and result of	
?iw-di	‘descent, off-spring’	?iw-de	‘to come from, originate’
?aaw-di / ?aawdiiji	‘seed’	?aaw-de	‘to sow’
puud-di, puudi	‘henna’	fuud-aade	‘to apply henna’
mbod-di / bolle	‘snake’	wod-ude	‘to ban, to make taboo’

The outcome of **?iw-de** ‘to originate from somewhere’ is that one belongs to a line of descent (**?iw-di**). The word **?iw-di** is found translated as ‘origin’ in other dialects (Zoubko 1980:46). The meaning of the word **?iw-di** has something to do with origin (where one comes from) and with offspring (what comes from the same place of origin). Seed can be thought of as that which you sow, that which makes sowing possible. The instrumental meaning of the circumstantial derivation expresses the idea that seed is used for sowing. The meaning “product, result” comes from the fact that more seed can be obtained from sowing seed, so seed is also the product, the result of sowing. In a similar way, henna is the product with which you make decorations on the body and the resulting decorations. There is insufficient evidence to support the fact that the Fulbe believe that the uttering of the taboo word **mboddi** ‘snake’ results in the appearance of a snake. However, the actual word is taboo and instead of it the euphemistic expression **boggol leydi** ‘rope of the earth’ is used in Maasina. The idea that the breaking of the taboo results in the appearance of a snake is present with speakers of the closely related Wolof language. This makes the etymology of **mboddi** ‘snake’ as “result of taboo” plausible.

The following words have stems that are of the same form as certain verb stems. It is not obvious that these nominal and verb stems are related. The suffix combining with these stems is **-di**. The meaning attached to the suffix **-di** ‘result of, product of’ is also not always obvious. But no other explanation for the occurrence of the suffix **-di** is available. So far these hypotheses are the only explanations available.

	process and result of underestimating:	
jaw-di / jawle, jawdiiji	‘wealth, fortune’	yaw-de ‘underestimate’
°jaw-di	‘big ram’	
°jaw-di-ri / jaw-di	‘ram’	

It is possible that the name for ‘ram’ and ‘wealth’ are related to the verb ‘to underestimate’. This name may have had pejorative connotations, i.e. a depreciation of its value. This is often the case with names for children. Pejorative names like **wapaa°du** ‘that is hated’ are given to protect them. The derogatory name is expected to deceive the evil spirits and prevent them from taking away the children or the ram or the wealth. Is **jawdi** ‘wealth’ perhaps the result of the underestimation? And is **°jawdiri** then based on the word for wealth because rams would be considered part of wealth?

	process and result of leading so. or sth.:	
dow-di	‘shadow’	dow-de ‘to lead’ (horse, blind person)

Possibly, the ‘shadow’ is named after its nature of accompanying one all the time, like one that is leading a horse or a blind person. Another possible explanation is that leading

someone results in the creation of a shadow for that person. The shadow is the result of leading someone.

Perhaps more imagination is needed to explain the meaning of the suffix **-di** as ‘product and result of’ in the word **leydi** ‘land’, although it does not seem to be impossible. The verb **les-a** is not attested in Maasina. Its meaning is taken from Zoubko (1980:325) who indicates that it occurs in Futa Jallon.

process and result of clearing the bush > bare earth:

ley-di ‘earth’ **les-a** ‘to clean (remove what shouldn't be there), clear,
ley-di / leyde ‘land’ slash, trim, prune, work (wood), tool (stone)’

The basic meaning of the word **leydi** is proposed as ‘bare earth, fallow, bare land ready to be cultivated’. In this way the word **leydi** can be seen as the result of “clearing” part of the bush, in the sense that one removes what shouldn't be there by slashing away shrubs, by trimming trees, by moving stones to lay open the bare earth. The semantic broadening of the term from bare earth to earth to land to country is then a plausible path of semantic expansion.

A tendency for the type of derivation where the suffix **-di** has the meaning “process and result, product of” can be established despite some examples that are difficult to explain. This morpheme originates from a combination of the circumstantial grade marker ***r** and the class marker ***ri** of the NDI class.

7.2.3.4 THE GRADE D SUFFIX FORMS **-di** AND **-ji**

The subjective word derivation in the NDI class is marked by the suffix form **-di**. The subjective word derivation is used for the formation of deverbal nouns. The grade D grade marker indicates that the noun has the semantic role of the subject of its verb stem. The prenasalized initial suffix is identical in form to the subject concord. The grade D suffix is the form of the class suffix in participles. The following words can be explained by their derivation from participles (historically).

that which colours yellow:

?ooldin-di ‘yellow dye’

?oold-iddε ‘to colour yellow’

that which (walks as if it) is hindered:

pallaaⁿdi / pallaade ‘lizard’

fall-aade ‘to be hindered by an obstacle’

that which is being cultivated:

demaaⁿdi ‘rice’

rem-eede ‘to be cultivated’

(bull) which is docile:

[***d̥aatⁿ-di** > ***d̥aanⁿ-di** > **d̥aaⁿ-di**]

d̥aaⁿdi / d̥aalli ‘pack-ox, docile bull’

d̥aat-ude ‘to be docile, gentle’

(bull) which has erected (its horns):

carginiiⁿdi / carginiid̥i ‘bull with horns

sargin-aade ‘to erect, put upright’

pointing forwards’ (Zoubko 1980:428)

A number of nouns referring to qualities are derived from verb stems with the grade D suffix **-di**. The abstract nouns given below are identical to the adjectival forms of these words for

the NDI class. Note that the meaning of the adjective is transparent, it is identical to the paraphrase given for the derivation of the participle. The input to the nominalization of the participle is a relative clause. This relative clause can in some instances describe the abstract noun derived from verbs which express a state. In a similar way the relative clause of stative verbs can be interpreted as adjectives. This explains why sometimes the abstract noun and the adjective of stative verbs fall together.

verb		noun	
faaf-ude	'to be narrow'	paaⁿdi	'narrowness'
haaf-ude	'to be bitter'	kaaⁿdi	'bitterness'
juut-ude	'to be long'	ⁿjuuⁿdi, ⁿjuunⁿdi	'length'
yaaj-ude	'to be wide'	ⁿjaayⁿdi, ⁿjaaⁿji	'width'
adjective (NDI)			
paaⁿdi	'narrow'	leydi paaⁿdi	'a narrow land'
kaaⁿdi	'bitter'	gawri kaaⁿdi	'bitter millet'
ⁿjuuⁿdi	'tall'	^mboomri ⁿjuuⁿdi	'a tall maid'
ⁿjaayⁿdi	'wide'	ⁿjayri ⁿjaayⁿdi	'a wide plain'

Palatalization of the initial consonant of the suffix occurs in the word **ⁿjaayⁿdi, ⁿjaaⁿji** 'width' under the influence of the final palatal consonant of the stem and the high vowel [i] in the suffix. This results in the only noun in the NDI class that has an allomorph -ⁿji.

What the related verb is in a number of words that are formed using the subjective word derivation is not known or uncertain.

ⁿdam-ⁿdi, ⁿdan-ⁿdi / damⁿdi	'he-goat'	raʃʃ-ude	'to be short'
ⁿjam-ⁿdi, ⁿjan-ⁿdi / jamⁿde	'iron'	yam-ude	'to be healthy'
ⁿgeenⁿdi, ⁿgeeⁿdi / gelle	'village'	yeet-ude	'to live'
ⁿjaareeⁿdi	'sand'	yaar-ude	'to go with'

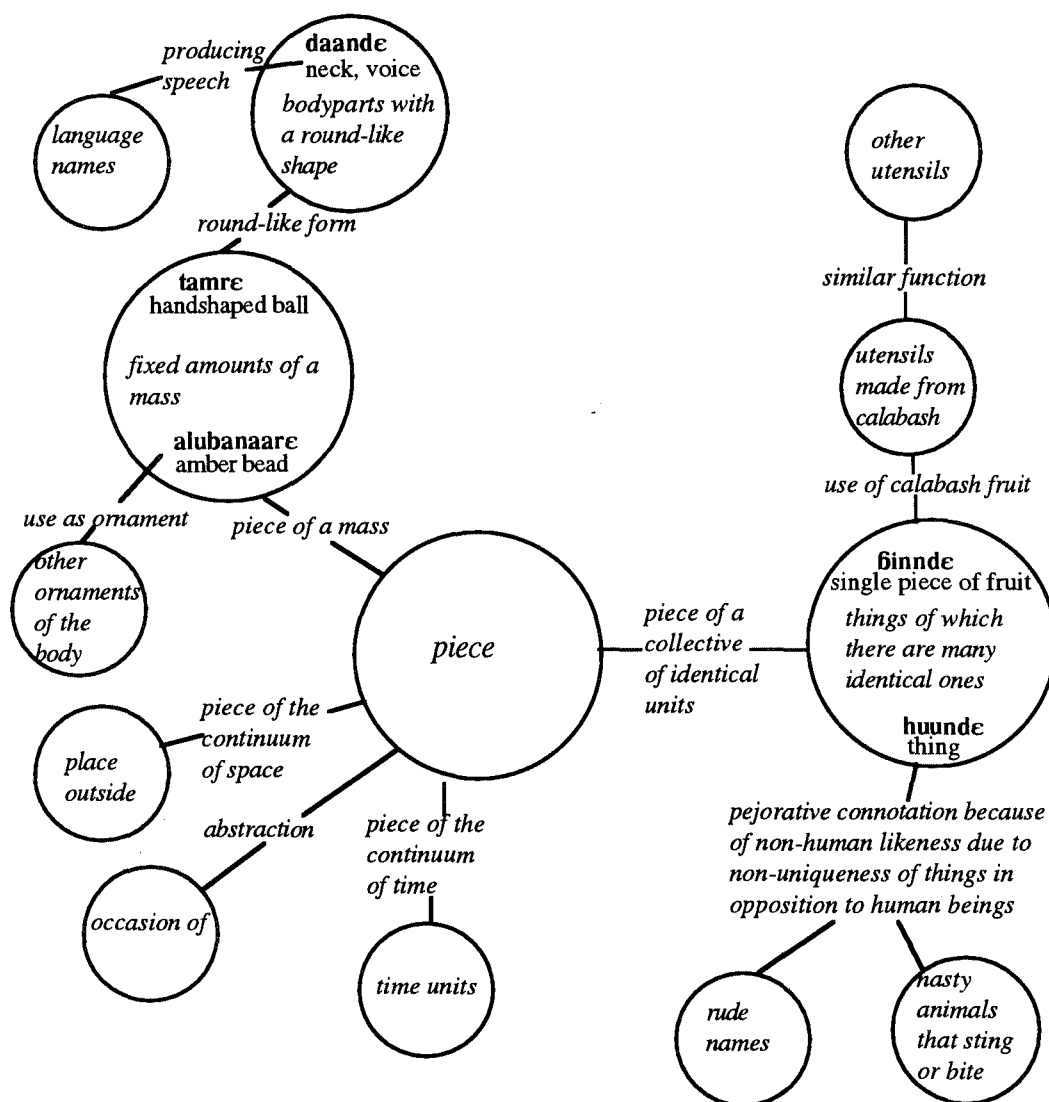
The hypothesis is that the relation between the derived words and the verb from which they have been derived has become opaque, either through loss of the verbs or through semantic shift.

7.2.4 THE NDE CLASS

The NDE class groups a large number of nouns. Arnott (1970a:75) states that the NDE class contains nouns covering a wide range of meanings including places and times, globular and annular objects. The central meaning denoted by the class marker seems to be "a piece of". Different sets group "pieces of a larger mass", "pieces that are singled out from a collection of identical units", and "pieces of a continuum of time or space". Other semantic sets of words like utensils, ornaments or language names are linked to the NDE class by an association with a particular member of the NDE class.

The pejorative names in the NDE class are different from the pejorative names in the NDU class. The pejorative names in the NDU class are meant to protect the named person from bad spirits, whereas the pejorative names in the NDE class are insults like **nɛdɔ-ɛrɛ** 'rough

person' (with the same stem as **nedd-ɔ** 'person'). The addition of the inanimate "thing-like" meaning associated with the NDE class gives the word the meaning of "inhuman person". The following network of semantic associations are proposed for the semantic grouping of words in the NDE class.

*fixed amount of a mass*

haayre	stone
tɔɔɓɓere	drop of rain
julɓere	piece of charcoal
disaare	piece of cloth
ruulde	cloud
saabun^ɔde	piece of soap
tamre	hand formed ball
tayre	part
ʔalubanaare	piece of amber, bead

piece from a collection

jiire	tooth
hɔɔɗere	star
hɔlsere	hoof
hinere	nostril
limre	number
yitere	eye
rɔɗere	bum
leemre	(one) hair
huu^ɔde	thing
ɓin^ɔde	fruit
miisiide	mosque

units of time

jan^ɔde	day
yɔntere	week
hitaa^ɔde	year
dabbu^ɔde	cold season
jaaw^ɔde	harvest season

units of space outside

laamɔɗde	capital
jon^ɔde	position
ladde	bush
dee^ɔde	quarter

<i>ornamental pieces</i>		<i>piece of fruit</i>		<i>pejorative rude names</i>	
sēdere	cowry	maŋ ^a gɔrɔɔre	one mango	ned ^d ere	rude person
hɔɔtɔn ^a de	earring	bananaare	one banana	[?] innaare	namesake of mother
sanaare	nose ring	gɔrɔɔre	one kolanut		
sarde	ring	tum ^m bude	calabash	<i>nasty small animals (sting or bite)</i>	
<i>handformed round-like shape</i>				yaare	scorpion
ɛɔɔdere	ball	<i>utensils made from calabash</i>		fijaaare	captain fish
hɔɔre	head	hɔɔre	ladle	wɔjere	hare
ɛɔɔɔɔ ^a de	egg	lawlɔɔre	milking bowl		
<i>round-like form</i>		<i>utensils</i>		<i>language names</i>	
sarde	ring	haasaade	file	fulfulde	
daa ^a de	neck, voice	ɛɔ ^a de	water pot	maasinagkɔɔre	

The nouns in the NDE class are characterized by a suffix of this class. The following table shows the underlying forms of the different suffix forms and their allomorphs.

grade A:	*-re	objective word derivation; allomorphs -ere, -re, -de, - ⁿ de
grade B:	*-ɥ-re	associative word derivation; surface form -re preceded by vowel length
grade C:	*-r-re	circumstantial word derivation; surface form -de intention: infinitives; purpose: utensils
grade D:	*-n-re	subject word derivation; allomorphs - ⁿ de, - ⁿ je

It is possible to recognize a pattern among these suffix forms which is also described for the suffix forms of the NDU and NDI class. The classification of these suffix forms over the different grades by Arnott is determined by the behaviour of the stem in combination with other class suffixes. The table below gives the regular distribution of suffix forms which is identical to the distribution of the suffixes in the NDU and NDI class.

	grade A	grade B	grade C	grade D
-ere	licc-ere licc-e 'rag'			
-re	new-re new-e 'hand palm'	sagii-re cagii-je 'basket'		
-de	sar-de car-e 'ring'		laamɔr-de laamɔr-d ^e 'capital'	
- ⁿ de	hɔɔtɔn- ⁿ de kɔɔtɔn-e 'earring'			[?] in- ⁿ de [?] in-d ^e 'name'

7.2.4.1 THE GRADE A SUFFIX FORMS **-ere -re -de -nde**

All the four allomorphs that occur in grade A are conditioned phonologically. The vowel initial allomorph **-ere** occurs following a stem that ends in a segment which cannot precede the consonant [r]. This suffix initial consonant cannot be preceded by more than one consonant, it cannot be preceded by a consonant that is less sonorant. The continuant initial allomorph **-re** follows stems ending in a segment that is more sonorant than [r]. The plosive initial allomorph **-de** follows a stem ending in an alveolar continuant [l] or [r]. The prenasalized initial allomorph **-nde** follows a stem ending in an alveolar nasal. The suffix forms of grade A are used in the “objective” word derivation. Words derived with these suffixes simply denote objects when the stem is nominal.

Nominal stems in objective word derivation:

hin-ere / kine	‘nose’
hɔɔd-ere / kɔɔde	‘star’
fell-ere / pelle	‘blaze, small spot on the forehead’
nɛw-re / newe	‘palm of the hand’
hɔɔ-re / kɔhe	‘head’
sar-de / care	‘ring’
hɔr-de / kɔre	‘small calabash’
gan-nde	‘chest, rib cage of a living animal’
saabun-nde / caabune	‘soap’
hɔɔtɔn-nde / kɔɔtɔne	‘earring’
haatan-nde / kaatane	‘cooking stone/fireplace’

Nouns in the NDE class which are derived from verbs with the objective derivation denote the unmarked object of that verb or the unmarked state expressed by that verb.

Deverbal objective word derivation of action or process verbs: cognate object:

mɔɔtt-ere	‘gathering’	mooɔttude	‘to gather’
yedd-ere	‘objection’	yeddude	‘to contradict’
murt-ere	‘uprising, revolt’	murtude	‘to revolt’
lim-re / lime	‘number’	limude	‘to count’
fim-re / piɔe	‘knot, wedding’	fiɔude	‘to tie’
naar-re	‘entering of the water’	naatude	‘to enter’
tay-re / taje	‘part’	tajude	‘to cut’
tam-re / tame	‘hand formed ball’	tamude	‘to hold in the hand and make a ball’

Inchoative verbs: cognate state:

heyɔf-ere	‘hunger’	heyɔfude	‘to be(come) hungry’
natt-ere	‘laziness’	nattude	‘to be(come) lazy’
tamp-ere	‘tiredness’	tampude	‘to be(come) tired’
dejj-ere	‘silence’	dejjude	‘to be(come) silent’
fuuy-re	‘laziness’	fuuyude	‘to be(come) lazy’
jɔy-re	‘wittiness’	jɔyude	‘to be(come) clever, witty’
bɔn-nde / bɔne	‘evil, bad luck’	bonude	‘to be(come) bad’

A gathering is the cognate or unmarked object of the verb to gather. A number is the unmarked object of counting. A knot is the unmarked object of tying. Hunger is the unmarked state described by the verb to be hungry. Tiredness is the unmarked state of being tired. The only form that uniquely marks the objective word derivation is the suffix form **-ere**. Possibly, this form has replaced the suffix form **-nde** which is expected after stems ending in an alveolar nasal in a word like **hinere** ‘nose’.

7.2.4.2 THE GRADE B SUFFIX FORM **-re**

The suffix form in grade B nouns is formed underlyingly from the associative grade marker *ɥ and the class marker *re. The trace which the grade marker leaves is the lengthening of the last vowel of the stem. This suffix is added to stems that are full nouns which are either loan-words or Fulfulde stems combined with a class marker, or even inflected verb forms.

fotii-re / potiije	‘saucepan’	loan-words Fr. pot
ɲooɲiire / ɲooɲi	‘fried dough-balls’	Bmb. ɲomi
bananaare / bananaaje	‘[one] banana’	Fr. banana
indigenous Fulfulde words		
ɲgaykaare / ɲgaykaaje	‘hole’	ɲgay-ka ‘hole’
waaldeere / waaldeaje	‘age mate’	waalde ‘age group’
maasinanɲkore	‘Maasina dialect’	maasinanɲk-e / -ɔɔbe ‘person from Maasina’

The meaning of the class marker denotes the same thing as the stem when the stem is a loan-word. The class marker in **bananaare** denotes “a piece of fruit”, this word formation associates it with the generic fruit name ‘banana’. Likewise the class suffix in **ɲooɲiire** denotes a “ball formed piece”. The word formation associates that meaning with the Bambara name for “a fried dough-ball”. Sometimes the association between grade B words and the full words found in the stem is partial. An age mate is “one single piece (person) associated with an age group”. The language of Maasina is “the language associated with people of Maasina”.

There are a number of grade B words whose stems do not seem to function as independent words in Maasina.

haddamaa-re / kaddamaaje	‘wrapper’	haddude	‘to wrap’
fɔɔɔ-re / pɔɔɔje	‘promise’	fodude	‘to promise’
salaa-re / salaaji	‘refusal’	salaade	‘to refuse’
hɔɔlaa-re	‘confidence’	hɔɔlaade	‘to trust’
taɲaa-re	‘ugliness’	taɲaade	‘to be ugly’
dejjinaare	‘taciturnity’	dejjinaade	‘to keep quiet’

The word **fɔɔɔre** could be formed using the agentive derivation “that which promises” (see section 8.1.4). The word **haddamaare** could be based on the conjugated verb form **haddaama** ‘has been wrapped, worn around the waist’. The derivational history of the

remaining three words is not clear. The long vowel [aa] could be the trace of a class marker of the KA class.

7.2.4.3 THE GRADE C SUFFIX FORMS -de AND -^aje

The combination of the circumstantial marker *r with the class marker of the NDE class results in the suffix form -de. Nouns that are formed with this -de suffix denote things which are semantically linked to the NDE class and are characterized by their purpose or intention. It seems useful to make two groups of nouns that are formed with the circumstantial word derivation in the NDE class.

Two related categories in grade C of NDE class:

1. places and instruments paraphrased by their use (purpose)
2. verbal nouns forming the infinitive: indicating intention

Places and instruments

Most nouns which take the allomorph -de of grade C as suffix of the NDE class are stems which often combine with the circumstantial extensions -ir- or -r-. The nouns resulting from stems with the circumstantial extension are names of locations and instruments (see also Mohamadou 1985:284-289). In Maasina the following names of locations or places and instruments or articles of use are found. The extension -ir- is used when the noun is derived from an active verb. The extension combines with the middle voice marker *ɔ when the noun stem is derived from a middle voice verb. The stems in the following words are built on existing verb stems, except the word **luumorde** 'commercial quarter' which is related to the noun **luum-ɔ** 'gɔ' 'the market'.

instruments, CL: "calabash, stone, piece", CIRC grade marker: "purpose; used for"			
ʔom^abirde / ʔom^abirde	'lid, cover'	ʔom^abude	'to cover'
ʃilirde	'hook, string'	ʃilde	'to hang'
feccirde	'object for dividing'	feccude	'to divide'
laamnirde, laanirde	'soap'	laabude	'to clean'
dasirde / dasirde	'dragstone on loom'	dasude	'to drag'
jaaporde / jaaporde	'collecting milk bowl'	jaajaade	'to gather home'
laworde / laworde	'bowl for milk'	lawlaade	'to collect milk'
jokkorde / jokkalle, jokkɔle	'joint'	jokkude	'to follow, to join'
ʃursirde / ʃursirde	'stone for removing seeds from cotton'		
jigirde / jigirde	'wood to roll leather'		

locations, CL: entity is a "spatial unit", CIRC grade marker: "purpose; used for"			
fijirde / pijirde	'playground'	fijude	'to play'
jipporde / jipporde	'place of descent, station'	jippaade	'to descend'
laamorde / laamorde	'headquarters, capital'	laamaade	'to govern'
lɔɔorde / lɔɔorde	'bathing place'	lɔɔtaade	'to wash o.s.'
juulirde / juulirde	'place for praying'	juulde	'to pray'
luumorde / luumorde	'commercial quarter'	luumɔ	'market'
taarorde	'bathing place'		

The places and instruments are paraphrased as “what the place or thing linked to the NDE class is used for”. The meaning of the circumstantial extension in these nouns can be summarized as “used for”. It indicates the purpose of the place or instrument. There are a number of nouns that show a suffix with the form **-de** with the same meaning that can not be explained phonologically. Their stems do not end in a final [r] of the circumstantial extension. However, the words that have this unpredictable **-de** suffix all denote articles of use. The hypothesis is that the phonologically predictable allomorph **-de** occurring frequently after stems of nouns with the extension **-or-** and **-ir-** with the meaning “used for” developed into a morpheme denoting articles of use. The circumstantial grade marker is postulated in the underlying structure of the suffix form **-de** in grade C. Many of these words are built on existing verb stems and show the same semantic relation between the object and the related verb stem. They express the purpose of the object, also when the circumstantial extension is not present in the verb stem.

tum^mbu-de / tum^mbude	‘calabash recipient’	tum^mbude	‘to put in’
fed^wde / ped^wde	‘button’	fedude	‘to button’
haasaa-de / kaasaade	‘file’	haasaade	‘to file’
pedu-de / pedude	‘calabash ladle’	pedude	‘to scoop’
taasan-ⁿde / taasand^e	‘iron to make fire with kapok and flint’		
ḥorḥaa-de / ḥorḥaadeeje	‘leather for attaching stirrup’		
naakaa-de / naakaade	‘wood for printing patterns on leather’		
lad-de / laddeje	‘bush’		
fed-de / pelle	‘age group; organization’		

The last word must be related to the verb stem **fed-a** ‘put different things, persons together’ (Zoubko 1980:166). The verbs related to the last five examples are not attested in Maasina, but similar derivations must have caused their combination with the suffix form **-de**.

Mohamadou (1985:288) suggests that assimilation has taken place in a number of nouns denoting instruments with a phonologically unpredictable suffix **-de**. The stem final consonant [r] of the circumstantial extension would have assimilated to the initial consonant of the suffix **-de**. The problem with such an analysis is that the sequence [rd] would not lead to an ill-formed structure (in either Maasina or Aadamaawa). Therefore, there is no need for the application of a repair strategy such as assimilation.

The following cognate forms used by speakers in Mopti and Toggere Kumba suggest that the word derivation of a particular concept can be subject to reanalysis.

infinitive (grade C):	ḥood-ude	‘to be compact’
grade A:	ḥaad-ere / ḥaad-e	‘ball’ [Toggere Kumba]
grade C:	ḥaad-de, ḥaade / ḥaa-d^e	‘ball’ [Mopti]

The two words suggest two perspectives on the same object in the world. The word **ḥaad-ere** ‘ball’ used in Toggere Kumba is formed with the objective word derivation. It describes a ball as the unmarked state of being compact. The form **ḥaade** ‘ball’ in Mopti suggests a combination with the suffix form **-de** emphasizing its meaning as an instrument used for making a mass compact (and thus easy to handle?).

The infinitive

This suffix form **-de** also marks the infinitive of a verb. The fact that the circumstantial meaning “intention” is part of the meaning of the infinitive has been discussed in section 6.1.4. A morpheme indicating the voice of the verb appears between the stem and the infinitive marker. Infinitives of middle voice verbs are marked by a morpheme **-aa-**. Passive verb infinitives are marked by a morpheme **-ee-**. The active verbs are marked by a verbal morpheme **-u-** which can be deleted when syllable structure conditions are not violated.

war-de	‘to come’
daw-de	‘to travel’
gas-u-de	‘to be perfect’
ʔuur-u-de, ʔuur-de	‘to smell nice’
yin-aa-de	‘to swim’
bɔʔʔ-aa-de	‘to fall’
yeew-ee-de	‘to miss, to be nostalgic, homesick’
jey-ee-de	‘to belong to’

The form of the infinitive marker is always **-de**, except for the phonetically predictable allomorph **-ⁿde** which occurs after active verbs that can end in a nasal consonant. Many times a verb stem ending in a nasal consonant occurs with the active voice marker **-u-**. Both forms **ʔunude** ‘to pound’ and **ʔunⁿde** occur; both are phonologically well-formed. The active voice marker **-u-** is always omitted following a verb stem combining with a verbal extension of the shape **-iC-**.

ʔun-u-de, ʔun-ⁿde	‘to pound’
ɲaam-u-de, ɲaam-ⁿde	‘to eat’
ʔam-u-de, ʔam-ⁿde	‘to take’
ʔanⁿdin-ⁿde	‘to inform’

The practice in the Maasina orthography is that the prenasalization of the infinitive marker after stem final nasals is not written. The analysis of these sequences of homorganic nasals followed by voiced plosives has been discussed in chapter two (see section 2.3.3).

There are some nouns that seem to have meanings derived from the meaning of the infinitives of the related verbs.

juulde / juuldeeji	‘to pray; prayer; religious feast’
maayde / maaydeeji	‘to die; death (of people)’
yidde / jilli	‘to want, to love; desire, love’

These three words are possibly polysemous. The interpretation of these words as noun or as infinitive depends on the context. The suffix is here analyzed as the infinitive marker **-de**. The meanings of the verb and the related noun are very similar. A prayer (whose meaning extends to a religious feast) equals praying, death equals dying, desire and love equal wanting and loving.

The suffix form **-ⁿje** is the result of a merger of the suffix form **-de** with a stem final palatal consonant. It occurs only in the word **jaapⁿje** which has been found with three different plural forms in Maasina.

jaapⁿje / jaajje	‘herd consisting of several herds’
jaapⁿje / jaaje	‘place where herds gather’
jaapⁿje / jaanje	‘place where several herds are put up’

The word is related to the verb **jaajaade** ‘to arrive at the corral, home’ (“arriver au bercail”) and the noun **jaanelol/jaaneli** ‘family, clan’. A rule whereby the final palatal consonant of the stem has assimilated to the initial consonant of the suffix could account for the form of the suffixes in these nouns.

*jaap+de > jaapⁿje > jaaⁿje	singular form
*jaap+²e > jaanje	plural form

The different forms make it difficult to discover the precise etymology of this word. The locative meaning of the word **jaapⁿje** referring to its use as a place for the gathering (the coming home) of different herds uniting one clan suggests that this exceptional form could have been derived using the circumstantial word derivation. It contains the suffix **-de** indicating “purpose, usage”.

7.2.4.4 THE GRADE D SUFFIX FORM **-ⁿde**

The subjective word derivation is used in the formation of verbal participles. The grade D suffix **-ⁿde** is identical in shape to the subject pronoun. It occurs as the suffix form in participles. Verbal morphemes indicating voice and aspect can occur in these participles. The subject pronoun **ⁿde** often refers to a period of time. The class marker **ⁿde** is also used as a concord in the question word “when” and in a relative sentence that starts with the adverb “when”. The following word could be derived from these participles morphologically. The derivation is sometimes semantically opaque. The etymology of the word **berⁿde** would suggest that the heart is seen as the organ that gets angry. It should be checked whether there are idioms for anger that involve the heart.

Active voice completive participle:

hayhayⁿde / kaykayⁿde	‘gall-bladder’	haapude	‘to itch’
berⁿde / berde	‘heart’	bernude	‘to get angry’
dabbuⁿde / dabbule	‘cold season’	dabbude	‘to pass the cold season’
naaguⁿde / naagule	‘request’	naagaade	‘to beg, ask’
darⁿde / darde	‘place, function’	daraade	‘to stand’
jonⁿde, joonⁿde / jonle	‘seat’	joodaade	‘to sit’

Passive voice completive participle:

nalaaⁿde / nalaade	‘day’	nallude	‘to spend the day’
hiraaⁿde / kiraade	‘dinner, supper’	hiirde	‘to pass the evening’
namaaⁿde / namaale	‘debt’	palmaade	‘to lend’
		pamlaade	

There are a number of nouns that show a word formation which is similar to the formation of participles. There are some irregularities that need further research before these words can be established as participles. The problems with these words are the following: either no related verb can be found or the verbal marker occurring in the participle is irregular and does not correspond to the regular voice and aspect markers that normally occur in participles.

Mohamadou (1985:302) suggests that the suffix **-ndɛ** is used in what he calls “resultative nouns”. These nouns take the regular aspect and voice markers which occur in participles. The resultative meaning, however, is expressed by the (relative) completive aspect markers which occur in these nouns, not by the type of word formation which is identical to that of participles. The difference is that participles function as modifiers referring to a noun in the discourse, while these nouns are not modifiers, they function as independent nouns. The following sections discuss words with the subject marker **-ndɛ** which are thought to be derived from participles but which take an irregular form of the participle.

There are a few words with a morpheme **-ɔɔ-**. This is no regular aspect or voice marker in participles. The hypothesis is that the resultative meaning comes from this morpheme **-ɔɔ-**. The suffix **-ndɛ** has the same meaning of the subject concord as in the examples of other participles. The **-ɔɔ-** could be a special form of the middle voice marker, since middle voice is also linked with a resultative meaning. The nouns below express concepts which could be interpreted as the result of the action denoted by the verbs from which they are derived. But an explanation should be sought for as to why these words do not have one of the regular middle voice markers occurring in participles. The regular middle voice markers are **-ɔtɔɔ-** for incomplete middle voice participles and **-ii-** for completive middle voice participles.

ɓaccɔɔndɛ / ɓaccɔɔdɛ	‘egg’	ɓoccinndɛ	‘to lay an egg’
jiiwɔɔndɛ / jiiwɔɔɛ	‘rainy storm’	jiiw-a	‘form a storm’ [FT] (Zoubko 1980:551)

There are a few words with a morpheme **-ɛɛ-** which is not a regular voice-aspect marker in participles. The morpheme probably indicates a passive meaning since these words seem to be derived from passive verbs. This particular passive morpheme needs further explanation. The regular form of the passive in participles is **-aa-** for completive forms and **-ɛtɛɛ-** for incomplete forms.

yɛwɛɛndɛ	‘loneliness, solitude’	yɛwɛɛdɛ	‘to miss, to be lonely’
yurmɛɛndɛ / jurmɛɛɛ	‘pity, compassion’	yurmɛɛdɛ	‘to be pitied’

Perhaps the passive marker **-ɛɛ-** and the middle voice marker **-ɔɔ-** are linked to a stative meaning which does not distinguish between a completive or incomplete meaning.

Another small set of words exists for which no related verbs can be found. For **ɓinndɛ** ‘fruit’, a reanalysis of the stem in related words can possibly explain the occurrence of the subject marker **-ndɛ** in this form.

ɓiɓɓɛ lekki	‘fruit’	ɓiddɔ / ɓiɓɓɛ	‘child’
ɓinndɛ / ɓiddɛ	‘fruit’	ɓii ʔadamu	‘the child of Adamu’

The regular expression for fruit is **ḡiḡḡe lekki** ‘children of the tree’. The form of the stem is proposed to be ***ḡih**. Fruit names are formed by adding the **-ⁿde** class suffix to the stem which is also used in the word for the tree name. The general word for fruit is based on the stem of **ḡidḡo** ‘child’ combined with the NDE class suffix. This word behaves like a participle and thus takes the subject pronoun **-ⁿde** as its class suffix on the analogy of the formation of the word **ḡidḡo/ḡiḡḡe** ‘child’. The underlying stem final [h] is deleted before the consonant initial suffix because [h] cannot combine with other consonants. Compensatory lengthening of the suffix initial consonant fills the time slot of the stem final consonant.

***ḡih + ⁿde > ḡin-ⁿde** ‘fruit’
***ḡih + de > ḡid-de** ‘fruits’

The analysis of the suffix **-ⁿde** in the word **wiiⁿde/bille** ‘corral for cows’ poses some problems. The following terms seem to be related to the word for corral in Maasina.

Maasina:	wiiⁿde / bille	‘corral for cows in the bush’
Gombe, Nigeria:	winnde / bille	‘ruins’
(Arnott 1970a:118)	biḡḡel / ^mbillon	‘small ruins’
	^mbiḡḡa / ^mbillo	‘big ruins’
	wil-	‘ruin, be ruined’
Nigeria:	winde / bille	‘ruins’
(Taylor 1932:231)	wila	‘ruin, despoil, rub out’
no dialect indicated:	wiinde / biille	‘village or camp, especially abandoned’
(Zoubko 1980:511)	wil-a	‘be in disorder’

A possible etymology could be that the word for **wiiⁿde** ‘corral’ [lit. ‘that which is in disorder’] is formed by a participle based on the verb stem **wil-** ‘to be in disorder’. This suggests that a semantic shift must have occurred in the meaning of the noun. The meaning for the word **wiiⁿde** or **winnde** described by Taylor and Arnott is ‘ruins’. The semantic change from “place which is in disorder” to “ruins” to “corral in the bush” is not impossible because the meaning “corral in the bush” implies that such a corral is often abandoned, and thus left in disorder. The meaning “village or camp, especially abandoned” given by Zoubko indicates the link between the two meanings found in Maasina and in Gombe. Another difficulty is that the related verb stem should have a long vowel given the alternative plural forms **biille** ‘corrals’ and **biille** ‘corrals’ when the word was carefully pronounced in Maasina.

This leaves a small number of words that show a prenasalized initial consonant of the NDE class suffix which cannot be explained phonologically, nor can **-ⁿde** in such words be explained as the subject concord because no clearly related verb can be found.

hitaaⁿde / kitaali	‘year’
jaawⁿde	‘harvest season’
huuⁿde / kulle	‘thing’
lɔɔⁿde / lɔɔde	‘water jar’
deɛⁿde / deɛde	‘quarter, district’

The position taken here is that ultimately it should be possible to find a verb stem on which these words have built their participle form. The verb stem might perhaps be found through a historical comparison of forms in Maasina with the forms in other dialects or even forms that occur in other related languages. Or maybe the relation between the form and a verb stem is obscured by a semantic change in either the verb or the derived noun.

7.2.5 THE NGE CLASS

The NGE class contains a few semantic subsets in Maasina. The larger part of the NGE class contains a bulk of nouns denoting names and types of cows. Another smaller subset within the NGE class groups sources of light: **yiite** ‘fire’, **jayⁿge** ‘light’ and **naaⁿge** ‘sun’. The following nouns can make use of the concord **ⁿge**. The word **yaŋⁿge** ‘ceremony’ forms a subset on its own. Some speakers use the concord of the NGE class for the word **yaŋⁿge** ‘ceremony’, others use the concord of the 'O class.

nagg-e	‘cow’
yiit-e	‘fire’
naaⁿg-e	‘sun’
jay-ⁿge	‘light’
yaŋ-ⁿge	‘ceremony’

Some other nouns with a possible suffix of the NGE class suffix which use the concord of the 'O class are discussed in section 7.2.5.5.

The words sun, fire, and cow are often cited as the content of the NGE class (Arnott 1970a:75). The grouping of these terms has puzzled many, although the issue is only cautiously discussed in the literature. The hypothesis is the experience of the Fulbe with cows links these semantic subsets. An association between cow, fire, and sun can be found in the following myth collected by Bonfiglioli (1984:49). The story recounts how cows were given to the Wodaaɓe in Niger:

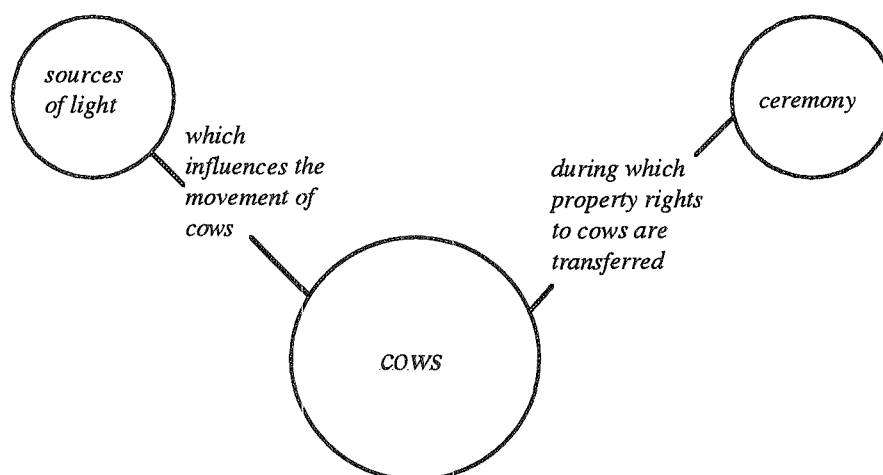
A girl was made pregnant by the angel of the river. The girl gave birth to twins: two boys. When her father found out who fathered the twins, he asked the angel of the river for her wedding gift. Out of the river came a grey cow and a black bull. The mother and her sons followed the cows, but the animals were wild and they fled from people. By following the cows they went further and further into the wilderness. At night, they lit a fire, and the cows were attracted by the fire. So the night was spent around the fire. And each day they left and went even further. Bonfiglioli (1984:49)

In this story cows are attracted to the fire at night, during daytime when the sun appears the cows have an urge to travel. An important semantic subset of the NGE class denotes

“cows”. The other words that can use the concord of the NGE class, the sun and the fire, can be related to cows in that they are sources of light which seem to have some control over the comings and goings of cows.

The word *yaŋ^ŋge* ‘ceremony’ is connected with cows because this term includes only those ceremonies at which property rights to cows are transferred (see also section 7.2.5.5). The fact that the words *yiite* and *yaŋ^ŋge* can sometimes also make use of the concord of the ‘O class seems to indicate that all words which do not describe cows are being removed from the NGE class in Maasina. The result is semantic simplification: only cows are then referred to with the concord of the NGE class.

Klingenheben (1963:71) also calls the NGE class the “cow-class” but he does not comment on a possible relation between terms like sun and fire and some other abstract nouns that belong to the NGE class in Aadamaawa. Arnott (1970a:75, 390) represents the semantic content of the NGE class by listing the three key terms “cow”, “fire”, and “sun”. The following semantic network represents the content of the NGE class in Maasina.



Mukarovsky (1962b:132) gives the original semantic content of the NGE class as “the cow and anything that is like a cow”. This content of the NGE class is proposed to refer to a pre-Islamic concept of the world. Essential in his proposal is the claim that once the sun was connected with the cow in the conceptual universe of the Fulbe. One of Mukarovsky’s arguments for the connection between “sun” and “cow” is the fact that the words for “day” and “calf” are formed on the same stem *pal-*. In Maasina the stem *pal-* is found in the following words:

<i>pal-e / palbi</i>	‘calf’
<i>pal-ɔma</i>	‘in the daytime, in the afternoon’
<i>pal-aaⁿde</i>	‘daytime’
<i>pal-l-ude</i>	‘spend the day, spend the afternoon’
<i>pal-nⁿde < *pal-nⁿde</i>	‘day’
<i>pal-w-ude < *pal-w-</i>	‘be midday, be in zenith (of sun)’

Mukarovsky quotes an idiomatic expression collected by Gaden (1931:135) to demonstrate the metaphorical identification of “calf” and “daylight”.

naaⁿge ʔina ʔam-n-a biyum
 sun LOC dance-CAUS-SUB child-her/his
 lit: 'The sun makes her child dance.' fig.: 'The sun makes the air quiver.'

This expression describes the quivering of the air when vibrating with heat. Mukarovsky leaves it to the imagination of the reader to arrive at his conclusion from this saying. Possibly his reasoning could go like this: The vibrations in the air are depicted as the dancing of daylight. Daylight being generated by the sun is seen as product of the sun. Metaphorically, daylight is seen as the sun's child. The calf, child of the cow, and the daylight, child of the sun, are represented by the same root. This is thought to be an indication of an ancient cosmological image where sun and cow are connected. Mukarovsky makes allusions to *palic*, the name of the god of the heavens meaning 'up high' in Dinka, to the word *niáál* 'heaven' in Nuer, and to Hathor who is the cow-goddess of heavens in Egyptian mythology. Mukarovsky proposes a pre-Islamic "solar bovine complex" [Sonnensrind-Komplex] for the Fulbe. He compares the image of the solar bovine to the image found in the rock-drawings in North East Africa. These drawings show bovines depicted with the sun's disc between the horns.

Mukarovsky's findings bring out some remarkable resemblances and fascinating metaphorical interpretations. But more solid cultural-historical evidence is needed to prove a link between the Fulbe's pre-Islamic concept of the universe with that of the Dinka, with that of the Nuer, and with the concept of the universe of the prehistoric Nagada culture of Upper Egypt. The stems **nal-* for "calf" and "daylight" can also be seen as homonymous, their resemblance being simply coincidence.

The initial consonant of stems that combine with a suffix from the NGE class is taken from the continuant series. There are three suffix forms of the NGE class.

Suffix forms NGE class:

grade A: -ε	< *yε	objective word derivation
grade B: -we	< *-y-ye	associative word derivation; used after full word stems
grade D: - ⁿ ge	< *n-ye	subjective word derivation

There is no suffix form of the NGE class in grade C. The word *nagge* 'cow' is sometimes analyzed as containing the suffix form -ge, but the consonant [g] is analyzed as part of the stem in this study. The absence of grade C words in the NGE class may be explained by the fact that the circumstantial derivation is not compatible with the meaning "cow". Cows are not denoted as instruments or places according to their purpose or intention. Cows are not circumstantial. They are essential, certainly in the ideology of the Fulbe.

7.2.5.1 THE GRADE A SUFFIX FORM -ε

As in all classes, the number of words combining with the grade A suffix is the largest. Most Fulfulde noun stems have a CV(V)C shape. Historically the suffix form -ε is derived from the form *yε whose initial continuant consonant was lost after consonant final stems. Some nouns derived using the objective word derivation combine with nominal stems, others with verbal stems. (More cattle names are provided by De Wolf 1985c).

yiit-ε / yiiteeji	'fire'
naaⁿg-ε	'sun'
nagg-ε	'cow'
say-ε / cayeeji	'copper coloured cow'
daak-ε	'cow with different colour neck'
dumar-ε	'cow, head and tail same colour'
wumal-ε / gumali	'cow without horns'
jamal-ε / jamali	'cow, mottled, spotted with different colours'
sɔl-ε / coli	'spotted cow'
sul-ε	'cow, red with white spots'
wɔh-ε / bohi	'cow, front part coloured (red), behind white'
wudd-ε / guddi	'cow without tail'
wuul-ε / buuli	'cow with white spot on forehead'
toll-ε / tolli	'cow with only one horn'
waag-ε / baagi	'cow with white sides'
wadd-ε	'female calf, 1 year'
suum-ε / cuumi	'cow, completely white or black'
lett-ε / letti	'cow with vertical and horizontal horn'
sarŋ-ε / carŋi	'cow with horizontal horns, widely separated'
mulg-ε / mulgi	'cow without teeth'
nal-ε / nalbi	'calf'
rimar-ε / dimari	'cow that doesn't deliver calves (anymore)'
ruumt-ε / duunti	'milk cow, in village in rainy season'
ʔɔl-ε	'yellow cow'
fur-ε	'grey, dust coloured cow'
wan-ε	'black cow' (address term)
ran-ε	'white cow' (address term)
wɔf-ε	'red cow' (address term)

related verbs

suum-ude	'to burn'
lett-ude	'to squint'
rim-de	'to give birth'
ruumt-ude	'to pass the rainy season'

verbs derived from the noun stems

sarŋinaade	'to stick out'
mulgididde	'to have no teeth, to be(come) toothless'
ʔooldude	'to be(come) yellow'
furdude	'to be(come) grey, dusty'
rawnude	'to be(come) white'
ɲawl-ude	'to be noon, to be in zenith (of sun)'
wojjude	'to be(come) red'

The arguments for analyzing the words **nagg-ε** as consonant final are given in section 7.2.5.3. The last syllable of the word **naaⁿgε** ‘sun’ has the same form as the grade D suffix **-ⁿgε**. But Mukarovsky (1962b:134) has found a possible cognate proto-Bantu stem ***-langa** ‘to shine’. The word **naaⁿgε** has a regular CVVC stem if it is related to this stem. In that case, the stem **naaⁿg-** can be analyzed as consonant final and it combines with the objective word derivation marked by the suffix **-ε**.

7.2.5.2 THE GRADE B SUFFIX FORM **-we**

The suffix form **-we** marks the associative word formation and occurs mostly after stems that are full words in themselves. Some clear examples are given below.

wɔɗεewe	‘red cow’ (descriptive)	wɔɗε	‘red cow’
ɓaleewe	‘black cow’ (descriptive)	ɓale	‘black cow’
raneewe	‘white cow’ (descriptive)	rane	‘white cow’
lewlaawe	‘cow resembling a hind’	lewla	‘hind’
mereewe / mereeji	‘cow without hump’	meere	‘nothing’
mulgɔɔwe	‘cow without horns’	mulgɔ	‘bald’
ɗidiwe	‘female calf, 2 years’	ɗidi	‘two’
tatiwe / tatiiji	‘female calf, 3 years’	tati	‘three’
nayiiwe / nayiiji	‘cow, 4 years’	nayi	‘four’
hɔɔbaawe / kɔɔbaaji	‘cow with forward horns’	kɔɔba	‘antelope’
lettɔɔwe / lettooji	‘cow, one vertical and one horizontal horn’	lettɔ	‘squinter’ (Zoubko 1980:325)

The word **wɔɗεewe** has in fact a double suffix of the NGE class. Its semantically complicated etymology of “cow that is associated with a semantic feature of a cow called **wɔɗε** (‘white cow’)” is explained in the discussion on adjectives describing colour terms (see section 8.1.3). Here it is only briefly indicated that **wɔɗε** is the name by which a red cow is called and **wɔɗεewe** is the descriptive term which is used when talking about a red cow. The same is valid for the words **rane** and **raneewe** and for **ɓale** and **ɓaleewe**. However, a herdsman told me that the term **ɓale** would be “used only by someone who doesn’t know anything about cows, a black cow is called **wane**”. The root. ***wan-** is also found in **^mban-a** ‘black donkey’, a word that has the meaning of ‘buffalo’ in Fuuta Tooro and Ringimaaji.

Some nouns are suspected to be derived from full nouns which are either Fulfulde nouns or loan-words. Further evidence is needed to corroborate the status of the stem as a possible Fulfulde word or loan-word. The following word could be derived from the word **ⁿgaari** ‘bull’.

gariwe / gariiji ‘troublesome cow, doesn’t allow to be milked’ < **ⁿgaari** ‘bull’

The occurrence of two long vowels in adjacent syllables can result in the shortening of the first long vowel in this sequence. This accounts for the difference in vowel length in the word **meere** ‘nothing’ and **mereewe** ‘cow without hump’.

The forms of the following words suggest that they are built on vowel final stems, i.e. on full nouns or on loan-words. The nouns from which they are derived are not found in the collected data. The stem **terka-* with an internal class suffix *-ka* could perhaps be derived from a word referring to a type of multicoloured blanket. This is especially plausible since the suffix form *-ka* of the KA class is used mainly to refer to types of blankets. The meaning of *terkaawe* in the periphery of Maasina and in the Haayre is not a multicoloured cow but a white or a light coloured cow.

terkaawe / terkaaji	‘cow (lineage) with more colours’
terkaawe wɔde	‘cow: more colours, red dominant’
mɔrgaawe / mɔrgaaji	‘cow: horns hanging forward’
motiwe / motiji	‘cow: without horns’
wijaawe / bijaaji	‘cow: horns hanging towards the cheeks’

The similarity of the above words with nouns which are clearly derived from full nouns is obvious, although the related nouns are not available. These forms are considered to have had a similar etymological history.

A few cow terms are agentive nouns derived from verbs. A verb stem is followed by the agentive marker *-ɔɔ-*. The agentive formation always combines with the continuant initial suffix form of the class suffix.

hawɔwe / kawooji	‘cow that butts’	hawde	‘butt’
doppinɔwe	‘cow with young calf that is not yet milked’	doppinⁿde	‘crush, trample’ (Zoubko 1980:138)

The verb gives a clear idea why such a cow would not be milked. The hypothesis in this study is that the morpheme *-ɔɔ-* forming the agentive noun is the class marker of the 'O' class. Thus the agentive noun is also formed using the associative word derivation.

The stems in the following words can be considered as full words. The word formation based on a verb stem combining with the morpheme *-amaa-* ‘serving for’ selects the continuant initial suffix form *-we* in the NGE class. Possibly, the stems of these words are conjugated verbs. The form *-amaa-* can be formed with the passive indefinite completive conjugational suffix *-amaa-*.

bir-amaa-we / biramaaji	‘milk cow’
dupc-amaa-we / dupcamaaji	‘cow, lent for a long time’
habɓ-amaa-we	‘cow, lent for a long period’

All stems attested with the morpheme *-amaa-* also occur in different participle formations with the prenasalized initial grade D class suffix *-nge* and the regular passive completive verbal marker *-aa-*.

bir-aa-nge	‘milk cow’:	“cow that has been milked”
dupc-aa-nge	‘lent cow’:	“cow that has been pushed”
habɓan-aa-nge	‘lent cow’:	“cow that has been tied to s.o.”

Similar word formations (verb stem + verbal marker + noun class suffix **-we** instead of subject pronoun **-nge**) were elicited as the word for a sterile cow or a cow whose calf had died. Many terms were given as translations for these words. It is not impossible that the terms are euphemisms because of a taboo on talking about a “sterile cow” or “cow whose calf died”. In Tenenku, a gentle herdsman hastened to add that such a cow in your herd can bring good luck to the rest of the herd. He actually confirmed all the terms given. A group of herdsmen in Fatooma first denied that such cows existed. They gave these words only when I insisted, expressing astonishment over the lack of such terms, stating that such cows did exist to my knowledge in my country (the Netherlands). Possibly, the different forms are related to the taboo on speaking about cows that suffer such misfortunes.

ⁿgaaⁿdaawe / ⁿgaaⁿdaaji	‘sterile cow’
heegumaawe / keegumaaji	‘milk cow whose calf died, one still milks her,
hewdumaawe / kewdumaaji	she is being milked after blowing in the uterus’
hewdaawe	id.
heewdaaⁿge	id.

The words show different stems, all of them vowel final and most of them selecting the continuant initial suffix form of the class suffix. The form **heegumaawe** is possibly related to the word **heege** ‘hunger’. Such a cow gives a lot of milk because no milk has to be left for the calf, thus preventing hunger. The morpheme **-umaa-** is only found in the word **heegumaawe** and **hewdumaawe**. The form **-umaa-** combines with the continuant initial suffix form, like the stems ending in **-amaa-**. The form **-umaa-** is possibly the indefinite conjugational suffix for active voice verbs. The exact meaning of the indefinite is difficult to describe since its occurrence is rare.

The last three words seem to be built on the stem **heewd-** ‘to be accompanied with many’ which might also refer to the quantity of milk that can be taken from a cow which lost its calf. Shortening of the first long vowel occurs in a sequence of two syllables with long vowels in **hewdumaawe** and **hewdaawe**. The hypothesis is that the forms taking the suffix form **-we** after a stem consisting of a verb root and a verbal marker have been subject to reanalysis. The stem of **hewdumaawe** is a full word, i.e. a verb stem with the active or passive indefinite conjugational suffix. A stem which is by itself a full word combines with the continuant initial suffix form **-we**. This formation has been replaced by the more regular participle formation **heewdaaⁿge** with the suffix **-nge**. Perhaps the taboo on “sterile cow” and “cow whose calf died” caused these words to remain combined with the unproductive morphemes **-umaa-** and **-amaa-** in one of their variants.

7.2.5.3 ERRONEOUS ANALYSIS OF THE SUFFIX FORM **-ge**

The form **-ge** does not occur as a class suffix of the NGE class in Maasina. A word final syllable with the form **-ge** occurs in two nouns. However, the consonant [g] should be analyzed as part of the stem. This analysis is supported by internal reconstruction and historical comparison of the Fulfulde form with words for ‘cow’ other languages. The last syllable of the following words in the NGE class has the form **-ge**.

nagge / **nay** 'cow'
wiige / **bijji** 'heifer'

It is possible to analyze the underlying form of the stem in the word **nagge** 'cow' as ***na²** and to assume, with Klingenheben (1963:10), that regressive consonant assimilation has taken place. The stem final glottal stop cannot be adjacent to the initial consonant of the suffix *-**ye**. The contact of the consonants *[**ʔy**] could have resulted in the geminate [**gg**].

However, **-ge** is not the suffix form but **-e**. Cognate words in the related languages Wolof and Serer indicate that the stem might well have ended in a velar stop. Wolof has no class suffixes, the word **nag** 'cow' ends in a voiced velar stop. Serer has the word **nak** 'cow' (Mukarovsky 1962b:133). Arnott (1970a:113) proposes the forms **na²-** and **nagg-** for the stem of the words for 'cow'. The consonant alternation ²/**gg** occurs in stem final position. The unproductive consonant alternation ²/**g** is also found word initially in the language. The stem of the words for cow in Maasina has the forms **nay-** and **nagg-**. The Gombe paradigm is given for comparison.

Maasina:		Gombe (Arnott's hyphenation):
nagg-ε ⁿ ge	'the cow'	nagg-e
nay d ⁱ	'the cows'	na²-i
nay-el ⁿ gel	'the little cow'	na²-el, naggel
nay-oy koy	'the little cows'	na²-on

A remnant of the stem final alternation ²/**gg** is only found in the singular/plural formation in the paradigm of 'cow'. The diminutive forms are built on the plural stem. The plural stem **nay** 'cows' is a short form for the word **na²i** 'cows' which also occurs in Maasina. The stem final alternation ²/**gg** is historically explained by the combination of a glottal stop with a velar continuant (***na²-ye** > **nagge**) in the singular and by the combination of two glottal stops (***na²-²i** > **na²i** > **nay**) in the plural. The [y] was a later result of loss of the glottal stop in the plural. Diminutive derivations occur in many forms, reanalysis of the stem occurs in both the singular and the plural forms.

A second word that is sometimes analyzed with a suffix form **-ge** is the word **wiige** 'heifer'. The underlying form of the stem in the word **wiige** 'heifer' is given as ***wiy-** by Klingenheben (1963:13). This means that the glide [y] is taken to be the stem final consonant which is realized as part of the long vowel [ii] before the initial consonant of the suffix [ge]. In the plural form **bijji** 'heifers' in Gombe the geminate [jj] is then explained as being due to an assimilation of the stem final [y] to the consonant initial glottal stop of the suffix **-²i** of the plural 'DI class. Arnott also takes the stem of the word **wii-ge** 'heifer' to be vowel final. He analyzes the consonant [g] as part of the suffix. The morpheme boundaries which are indicated by Arnott (1970a:121) result in the combination of the same stem with suffixes of different grades.

Gombe (Arnott)

grade C:	wii-ge	‘heifer’			
	bii-gel	‘little heifer’			
	ᵐbii-kon	‘little heifers’			
grade B:	bii-ji	‘heifers’	or	grade A:	bijj-i ‘heifers’

In Maasina, there is evidence that the stem of **wiige** can be analyzed as **wiig-** with a consonant final [g]. It was difficult to get the diminutive formation of the word ‘heifer’ in Maasina, because “if it was smaller it would be called something different” (yearling or calf). The diminutive forms of ‘heifer’ were refused by most consultants. The singular diminutive form **biigel** was given twice, its plural **ᵐbiigoy** only once. The fact that the consonant [g] appears also in the plural is an indication that this consonant is stem final. The same stem found in ‘heifer’ is also found in a word **biigal** denoting a chicken that has reached the age of laying eggs. It is likely that these words are based on the same stem considering the fact that a heifer is a young cow of three to four years that has the age to give birth to her first calf.

Maasina:

wiig-ε ʰge	‘the heifer, cow at age of giving birth’
bijj-i ɖi	‘the heifers’
biig-el ʰgel	‘the little heifer’
ᵐbiig-oy koy	‘the little heifers’
biig-al ʰgal	‘the chicken at the age of laying eggs’
biig-ε ɖε	‘the chickens at the age of laying eggs’

The hypothesis is that the word **wiige** has a stem **wiig-** that combines with the vowel initial suffix form **-ε**. The palatalization of the final consonant in the plural must have been caused by the high vowel [i] in the stem and in the plural suffix **-i**. The plural **biig-ε** ‘chickens with age of laying eggs’ has a clear stem final [g] that could by no means be attributed to the initial consonant of the suffix of the ‘DE class.

So the words **wiige** ‘heifer’ and **nagge** ‘cow’ which are sometimes analyzed in the literature as having the grade C suffix **-ge** are actually words with a stem final consonant where the form of the suffix is **-ε** (grade A).

7.2.5.4 THE GRADE D SUFFIX FORM **-ʰge**

The suffix form **-ʰge** marks the subjective word derivation which is used in the formation of participles. A number of participles have developed an independent meaning. Some clear examples of such nouns which are participles derived from related verb stems are given below. The proposed etymological and literal paraphrases are given between double quotes.

“that which has given birth”:

ᶑeyʰge	‘milk cow with calf that still sucks milk’
ᶑeynude	‘to give birth’

“(fire) which is worthless”:

jaayⁿge ‘small fire; light (of lamp)’
jaasude ‘to be worthless’

“that which is being pushed (in the village for giving milk during rainy season, this is not nice for a cow because of the many mosquitoes)”:

nagge dupcaaⁿge ‘cow: left in the village’
dupcæede ‘to be pushed’
nay dupci, nay dupcaadi ‘cows left in the village’

The word **haaⁿge** ‘cow which has given birth’ is formed with the stem **haab-** and the grade D suffix while its plural form **kaabi** combines with a suffix of grade A.

haaⁿge / kaab-i ‘cow which has given birth (at least once)’
kaab-ɔ / haab-uu-ŋe ‘woman who has given birth (at least once)’
haab-idⁿ-a ‘to have had children’ [DO] (Zoubko 1980:210)

The stem **haab-** is also found in the denominal verb **haabidⁿa** ‘to have had children’ and the noun **kaabɔ / haabuŋe** ‘woman who has given birth’. Perhaps reanalysis of the denominal verb stem **haab-idⁿ-a** resulted in a verb stem **haab-** from which the participle ***haabⁿge > haaⁿge** ‘cow that has had children’ was formed.

The following terms were found alternatively with the suffix forms **-e**, **-we** or **-ⁿge**. Reanalysis is shown by the occurrence of two different suffix forms which combine with virtually the same stem and have the same meaning. The fact that some of these nouns are clearly taboo might have obscured their etymology, and thus the choice of their class suffix was susceptible to reanalysis.

grade D **haŋŋanaaⁿge** ‘cow lent for a long period’
 grade B **haŋŋamaawe** ‘cow lent for a long period’
 grade D **heewdaaⁿge** ‘milk cow whose calf died’
 grade B **hewdaawe** ‘milk cow whose calf died’
 grade D **sootiⁿge / cootindi** ‘cow heavy with calf’
 grade A **sohotin-e** ‘cow heavy with calf’

As argued before, the participles **haŋŋanaaⁿge** ‘cow: lent for a long period’ and **heewdaaⁿge** ‘milk cow whose calf died’ are the more regular derivations.

“which is being tied to s.o.”: **haŋŋ-an-aaⁿge** ‘cow: lent for a long period’
 cf.: **haŋŋ-an-æe-de** ‘to be tied to/for someone’
haŋŋ-amaa-we ‘cow: lent for a long period’
haŋŋ-u-de ‘to tie’

The participle formation **heewdaaⁿge** is proposed to be a later formation replacing the unproductive formation with the indefinite completive of the word **hewdaawe**. The morpheme **-aa-** is the regular form of the passive voice and completive aspect in participles.

“which is with much (milk?)”:	hɛw-d-aa-ⁿge	‘milk cow whose calf died’
cf.:	hɛw-d-ɛ-ɔ	‘to be (accompanied) with much’
	hew-d-aa-we	‘milk cow whose calf died’

The verb stem of the verb **hɛwɔɔɔɔ** ‘to be (accompanied) with much/many’ in combination with the subject pronoun **ⁿge** of the cow-class results in the paraphrase “cow which is accompanied with much (milk?)”. The same stem is reanalyzed as a vowel final stem taking the continuant initial noun class suffix form in the word **hewdaa-we**. Such a reanalysis is possible when the link to the verb is no longer obvious, perhaps because of a taboo.

The verb stem **sootin-** ‘to cause to de-enchant’ is found in the words **sohotine** and **sootinⁿge** for a cow that is about to give birth. Zoubko (1980:443) gives a verb stem **soh-a** ‘enchant’ and two agentive nouns which are derived from this stem: **sohoowo** ‘sorcerer’ (“sorcier”) and **sohtinoowo** ‘anti-sorcerer’ (“anti-sorcier”). As a participle the etymology of **sootinⁿge** would be “that which causes to undo enchanting”. The reanalysis as a noun stem with the regular suffix form **-ɛ** after the consonant final stem is perhaps a later development.

“that which causes de-enchanting”:	sootin-ⁿge / cootindi	‘cow: heavy with calf’
	sohotin-ɛ	‘cow: heavy with calf’
	sootin-a	‘cause to undo enchanting’

The reasons for describing a cow heavy with calf as “undoing the enchanting” must be searched for in the system of beliefs involving cattle. The arrival of a calf in itself solves many problems and is the cause of joy. It is likely that more knowledge is hidden behind the etymology of the word **sohotine** ‘cow heavy with calf’. Perhaps the fact that the first milk has (medicinal) beneficial effects has something to do with the de-enchanting character of a cow heavy with calf.

7.2.5.5 THE CONTENT OF THE NGE CLASS: A DIALECT COMPARISON

The form of the last syllable in the following words from Maasina show a possible resemblance with the suffix of the NGE class.

Maasina	
tɔɔnaaⁿge ʔɔ	‘insult, provocation’
hɛɛge ʔɔ	‘famine’
yaafe ʔɔ	‘forgiveness’
yaage ʔɔ	‘reserve, shyness, respect’
yaŋⁿge ʔɔ, ⁿ ge	‘ceremony (esp. marriage, name giving and male circumcision)’

A comparison of the Maasina dialect with the Aadamaawa dialect reveals that a number of words with a suffix of the NGE class in Maasina changed their class concord from NGE to the concord of the ‘O class. There is actually one word **yaŋⁿge** ‘ceremony, celebration’ which is sometimes used with a concord of the ‘O class and sometimes with a concord of the NGE class. A similar change of concord must have occurred with some nouns in the

KA class and in the NGU class in this dialect. The same nouns with a concord of the 'O class in Maasina are found with a concord of the NGE class in other dialects.

Maasina		Aadamaawa (Klingenheben 1963:72))
tɔɔnaaⁿge ʔɔ	'insult, provocation'	toopaange nge 'plague'
yaafe ʔɔ	'forgiveness'	yaafuye nge 'pardon'

Mukarovsky argues that a number of nouns which do not denote cows or the sun are marked as later introductions in the NGE class. Their plural formation is one argument for a later introduction, aside from the semantic deviation from cow terms. Words like **yiite** 'fire' and **tɔɔnaaⁿge** 'plague' use the addition of the plural suffix **-ji**, an innovative plural formation, instead of replacing their singular suffix with a plural suffix. The abstract nouns in the NGE class in Aadamaawa are seen as later introductions into the NGE class. The main argument is the fact that they are based on Arabic loan-words. Klingenheben (1963:71) gives a number of abstract nouns and objects in the NGE class in the Aadamaawa dialect which do not occur in the NGE class in Maasina.

Aadamaawa : NGE class

sumalle / sumalli	'water bottle'	
bulaame	'type of bird'	
baraage	'red silk'	
bulaaⁿge	'type of (edible) fish'	
kaŋⁿge	'gold'	
gilgilwaaye	'child's game, making dizzy' < yiil- 'go round'	
toopaange	'plague'	< toop- 'to suppress'
duŋⁿgaye	'permission'	< duŋⁿg- 'permit'
barruye	'ban, warning'	< barr- 'warn'
fillaye	'story'	< fill- 'tell'
kawye / kawyeeji	'village'	< kauyee 'village' [Hausa]
yaafuye	'pardon'	< yaifu (imp.); fafaa 'forgive'
wasuye	'advice'	< waṣṣaa 'recommend'
suumaye	'fast'	< (ya) ṣuumu (imp.); ṣaama 'fast'
yerduye	'permission'	< yardaa (imp.); raḍiya 'agree'
fassaruyeye	'translation'	< fassara 'translate'
hinnaye	'mercy'	< (ya) hinnu (imp.); hanna 'have mercy'

The last six examples are all based on verb stems that are loan-words from Arabic. The allocation of some of the words to the NGE class is doubtful considering the Fulfulde spoken in Jamaare in North Cameroon described by Noye (1989) where these nouns were not found with a concord of the NGE class, but with concords of other classes (mostly the 'O class).

Jamaare	
kawye o	‘village’ < ƙauyee [Hausa]
toɔŋaŋ^oge o	‘provocation; tyrannic or unjust act’
barruye o	‘warning, threat’
yaafuye o	‘pardon, forgiveness’
wasuyeewol ^ogol	‘advice, recommendation’
hinnaye o	‘pity, mercy’
suumaye o / ^odu	‘fasting month’
yerduye o	‘agreement, permission’
gilgilwaaye o	‘game where children go round and round to get dizzy and fall on the ground’

These words also do not use the concord of the NGE class in the Fulfulde of the Ringimaaji.

ɗu^oum barruye	‘this warning’
ɗu^oum kawye	‘this corner of town’
ɗu^oum yaafuye	‘this forgiveness’
ɗu^oum hinnuye	‘this mercy, forgiveness’
ɗu^oum suumaye	‘this fast’
ɗu^oum yerduye	‘this trust’
ɗu^oum yaake	‘this condition’
^ode^oe tɔɔŋaŋ^oge	‘this trouble’
^ode^oe fillaye	‘this parable’
^ode^oe dunɗayere	‘this permission’

In Ringimaaji the concord of the NGE class evokes the idea of a cow. This is also expressed by the following proverb. This proverb is said to be very provocative and insulting. It describes the terrible situation of a Pullo without cows.

^ode^oe kam ʔɔ wal-aa ʔan^od-aa hiite ko naa^oge

CL-this TM he be-N know-N fire or sun

‘Concerning this (of the NGE class: cow), he knows but the fire and the sun.’

Many of the terms with a NGE class suffix can be related to religion and ceremonies. Especially the deverbal derivations in Aadamaawa like **suumaye** ‘Ramadan, fast’ and **yaafuye** ‘forgiveness’ and **tɔɔŋaŋ^oge** ‘provocation, plague’ do give this class a content which can be linked to both the Islamic and pre-Islamic systems of belief.

There are two possibilities: One alternative is that the addition of the words not describing a cow but relating to ceremonies and moral ethics was an innovation of the Aadamaawa dialect. The other alternative is that the words related to ceremonies and moral ethics were part of proto-Fulfulde, but they changed their concord in the Maasina dialect as a result of tension between a certain interpretation of Islamic law and the traditional system of beliefs related to cows. This tension can also explain why a game like **gilgilwaaye** changed its concord. Games are especially played during ceremonies in Maasina, but Islam

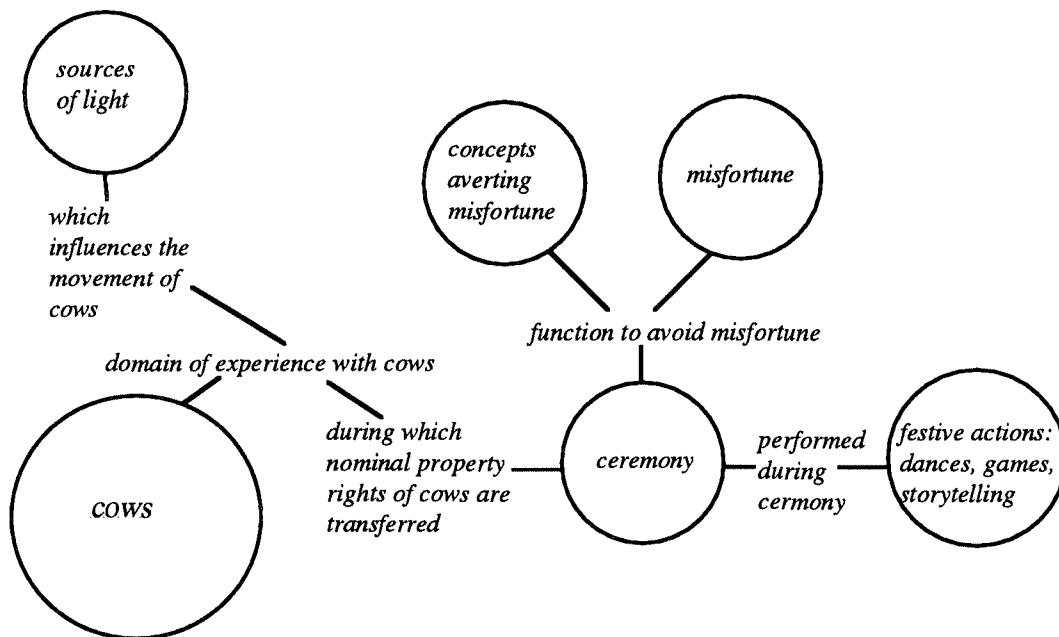
is said to forbid games in Maasina. Thus in Maasina the NGE class could have been reinterpreted with only a secular meaning of cows. The 'O class is indeed a class for religious terms in Maasina, so a shift of religious terms to that class can be semantically explained.

The term **yaake** could be linked to the NGE class because it is a dance performed during ceremonies, although several other meanings have also been ascribed to it in the literature. It is only found with the concord of the NGE class in the Fulfulde of the Dageeja in North Cameroon (Labatut 1973:313). Its form shows that it is unlikely that the actual suffix of this word is from the NDE or 'O class with which it occurs in other dialects. The suffix **-e** is neither a possible suffix form of the NDE class, nor of the 'O class. These are morphological reasons for assuming that the original class of the word **yaake** was the NGE class which changed its concord in other dialects.

Niger:	yaake	'circle dance in which men compete in charm and beauty' (Beckwith 1983:180, 198)
Nigeria:	yaake	'appearances, looks, shape, form, condition, standard, stage, state, period, spirit' (Taylor 1932:225)
Aadamaawa:	yaake o	'appearance; state, position; behaviour' (Zoubko 1980:528)
North Cameroon, Dageeja:	yaake ⁿge	'turning circle of young men, dancing and singing with a stick on their shoulder' (Labatut 1973:313)
North Cameroon, Jamaare:	yaake ⁿde	'period; physical condition' (Noye 1989:400)
Cameroon, Ringimaaji:	yaake ^dum	'condition; mate'

Only tentative hypotheses can be made about the possible direction and the motivation for the change of concord and class of words with a suffix of the NGE class. The present hypothesis concerning the semantic content of the NGE class takes the meaning "cow" as a key-term to which other semantic categories were linked by association. The word **yaⁿge** 'ceremony' is linked to cows because it refers to ceremonies where transfer of property rights to cows take place. The word **yaⁿge** 'ceremony' describes both **lamru** 'name giving day' and **kurtuⁿgu** 'wedding'. Property rights to cows are transferred from the parents (both father and mother) to their child at birth, celebrated during **lamru** 'name giving day'. Part of **kurtuⁿgu** 'wedding' is the transfer of property rights to cows from the husband to his wife (not to her relatives), on the basis of which she can sell the milk or trade it for cereals. My informants disagreed about whether **taadordi** 'circumcision' was a **yaⁿge** 'ceremony' or not, possibly because it does not often involve the transfer of cows. The names of games and dances were/are linked to the NGE class because they are played during ceremonies. Words describing misfortunes like **taⁿnaⁿge** 'plague' and **heⁿge** 'famine' are possibly in the NGE class because of a belief that a proper execution of the ceremonies can prevent misfortunes from happening. The later addition of religious terms derived from Arabic loan-words to the NGE class in the eastern dialects can also be explained by the fact that Islam brought new ideas about the correct execution of ceremonies. Some Islamic religious

terms were then integrated into the NGE class on analogy of these ceremonial terms, especially words which denote concepts relating to the avoidance of misfortune like **barruye** 'warning' and **yaage** 'respect, reservedness, and behaviour showing these'. A proposal for the semantic content of the NGE class in proto-Fulfulde which is based on the assumption that the words discussed here were indeed members of the NGE class is represented by the following network.



Language can provide hypotheses about the culture of its speakers on the basis of semantic data. The semantic categorization of words in noun classes discloses interesting semantic information. These hypotheses for the cultural associations which could explain certain semantic groupings should be confirmed by extra-linguistic data. The hypotheses postulated here concerning the different semantic motivations for the grouping of nouns are tentative.

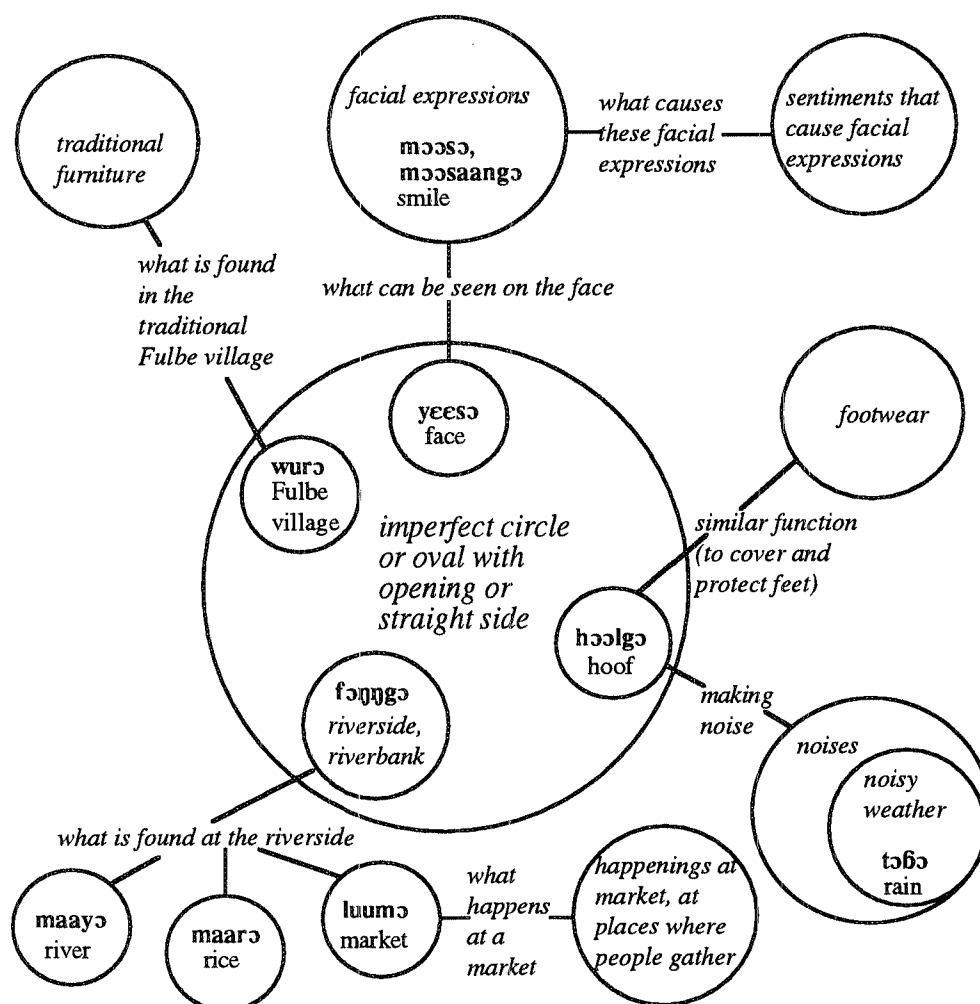
7.2.6 THE NGO CLASS

A prevailing semantic feature of the NGO class is the fact that the words often describe objects with the shape of an imperfect circle, i.e. round or oval with one straight side or with an opening. A bracelet, a kraal, a Fulbe village, and a rib have a shape which is circular with an opening. The bracelet typical for this region has an opening on one side. A hoof, a hoe, a lance a sand dune, a riverbank, a nail, and the hump of a cow have a shape which is round or oval with one straight side. Possibly, the oval form with one straight side is also the motivation for the occurrence in this class of the word **juŋᵑᵑ** 'hand' which has extended its meaning to comprise the lower arm and hand. The word **yeesɔ** 'face' is also in the NGO class because of its oval form, the forehead is the straight side of the face.

Other semantic clusters are linked to words with this shape. Some abstract nouns could be linked to this class via the facial expressions which they cause in the face (**yeesɔ**) which has a round shape. All footwear such as a shoe, a sandal, and a boot are included in the

NGO class in connection with the word **ከጋሪ** 'hoof' because they all function to protect the foot. The word **ከጋሪ** 'hoof' which is derived from the verb stem **ከጋሪ-** 'make noise' is linked to the word **ከጋሪ** 'noise' which occurs in the NGO class in the Aadamawa dialect. Words describing noises like a cry, a bark, and a whistle are grouped together with the word noise. This is despite the fact that the word **ከጋሪ** 'the noise' itself in Maasina is in the 'O or KA class. It is probably a loan-word from Arabic. Some weather terms such as **ከጋሪ** 'rain', **ከጋሪ** 'thunder', and **ከጋሪ** 'lightning' denote "noise making weather" and they are in the NGO class because of their association with noise. Lightning is thought of as making noise, just like thunder. The sound-imitating ideophone for thunder is **ገህህህህ**, an ideophone for lightning is **ከጋሪ**.

The associations around which most words in the NGO class can be grouped are represented in the following network.



<i>imperfect circle with one straight side or opening</i>		<i>traditional furniture</i>		<i>noises</i>	
wurɔ	Fulbe village	leeso	bed	wullaa ^{ng} ɔ	cry
hɔggɔ	kraal	daago	mat	wuttaa ^{ng} ɔ	whistle
jawɔ	bracelet	sekkɔ	matting	fɔɔfaa ^{ng} ɔ	breath
yeesɔ	face		<i>facial expressions</i>	ʔuumaa ^{ng} ɔ	groan
ɔɔŋ ^{ng} ɔ	hump of a cow	mɔɔsɔ,			<i>noisy weather phenomena</i>
labbo	lance	mɔɔsaa ^{ng} ɔ	smile	tɔɔɔ	rain
wabɔɔ ^{ng} ɔ	cheek		<i>human sentiments causing facial expressions</i>	feɔpaa ^{ng} ɔ	thunder
wirɔ	rib	seyɔ	joy		<i>footwear</i>
juɔ ^{ng} ɔ	hand	miilɔ	thought	fadɔ	sandal
hɔɔɔɔ	hoof		<i>semantic field of riverside</i>	kurfanuuwɔ	boot
jalɔ	hoe	fɔɔŋ ^{ng} ɔ	riverside, -bank	suleewɔ	shoe
waam ^{ng} ɔ	hill	maayo	river		<i>happening at market</i>
seeno	sand dune	maaro	rice	fijo	game
fɔɔŋ ^{ng} ɔ	riverside, riverbank	maaro	rice	sippɔɔ	organized fight
		luumɔ	market	dukɔ	loud quarrel

A number of nouns in the NGO class denote traditional furniture like **leeso** ‘bed’ and **daago** ‘mat’ and can be associated with what is traditionally found in the **wurɔ** ‘Fulbe village’. The semantic field of **fɔɔŋ^{ng}ɔ** ‘riverside’ contains the word **maaro** ‘rice’ and names of specific rice species which are cultivated in places where the river floods and places them with **maayo** ‘river’ in the NGO class. The semantic field of the riverside also accounts for the word **luumɔ** ‘market’ in the NGO class. The market often takes place at the riverside where mooring places of boats are.

The fact that the word **maaro** ‘rice’ is a member of the NGO class is peculiar. The importance of the cultivation of rice in Maasina is perhaps the reason why it is found in the NGO class and not in the KO class denoting grasses or in the NDI class denoting cereals. Rice is the basic food in Maasina. The expression **ɔamude maaro** ‘to eat rice’ is a metaphor for speaking Fulfulde in this dialect area. The importance of its cultivation at the riverside might account for its membership of the NGO class. It is even more remarkable to see that in Aadamaawa the word **maaroori** ‘rice’ has actually been put in the NDI class, like other grains. According to Zoubko (1980:340), the word **maaro** ‘rice’ is also used with the concord of the KO class like other grasses but it is not clearly stated in which dialect. Zoubko states that **maaro** ‘rice’ is a loan-word from Soninke. This is disputed by Tioulenta (1991:293-298).

The generic terms **gɔɔɔ** ‘kolanut’ and **maŋ^{ng}gɔɔɔ** ‘mango’ are loan-words integrated into the NGO class because of their final vowel [ɔ] and motivated by their hoof-like shape. Being loan-words, their integration in the NGO class gives additional evidence for the productive application of the semantic categorization on basis of a hoof-like shape (oval or circle with a straight side or opening) to words in this class.

The initial consonant of stems that combine with a suffix of the NGO class is taken from the continuant series. There are four suffix forms of the NGO class. Their forms and meanings are summarized in the table below.

Suffix forms of the NGO class:

grade A:	-ɔ	objective word derivation
grade B:	-wɔ	associative word derivation
grade C:	-gɔ	circumstantial word derivation: instruments or places associated with NGO class characterized by their purpose or use
grade D:	- ⁿ gɔ	subjective word derivation

The distribution and possible differences in meanings of the different suffixes are discussed and exemplified in the following sections.

7.2.6.1 THE GRADE A SUFFIX FORM -ɔ

The following words are nouns which are derived from nominal stems using the objective word formation marked by the suffix -ɔ in the NGO class. They are listed in such a way that they show the semantic groupings as described above (see 7.2.6).

hoof-shape

jaw-ɔ / jawe	‘bracelet’
fad-ɔ / padɛ	‘shoe’
tɔll-ɔ / tɔlle	‘one element of a pair’
jal-ɔ / jale	‘hoe’
labb-ɔ / labbe	‘lance’
baaw-ɔ	‘behind (rude)’
wecc-ɔ / becce	‘chest, rib cage (sg. one side; pl. the whole)’
wir-ɔ / bire	‘rib’
yees-ɔ / yeesooji	‘face’
gɔr-ɔ	‘kola-nut’
maaⁿgɔr-ɔ, maŋⁿgɔrɔ	‘mango (generic term)’
wur-ɔ / gure	‘a village, camp of the Fulbe’
sɛɛn-ɔ / cɛɛne	‘sand plain, dune’
ferr-ɔ / perre	‘bush with trees, wood (on elevation)’

noise and noisy weather terms

tɔɓ-ɔ / tɔɓooji	‘rain’
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on the riverside

maar-ɔ / maarooji	‘rice’
luum-ɔ / luumooji	‘market’
sakɔr-ɔ / sakorooji	‘daily market’
maay-ɔ / maayooji	‘river’

traditional furniture

lees-ɔ / leesooji	‘wooden bed, typical of Fulbe’
daag-ɔ / daage	‘mat’
sekk-ɔ / cɛkke	‘matting (wall decoration)’

abstract nouns referring to emotions which are related to certain facial expressions

sag-ɔ / sagooji	‘wish’
maasiib-ɔ / maasiibooji	‘disaster, plague’

The words which are derived from a verb stem combining with the suffix *-ɔ* marking the objective word formation denote objects and states which are linked in an unmarked way to the related verb. The following examples show such unmarked cognate objects.

fijɔ / pije	‘game, playing drums, feast’	fijude	‘to play’
haɓɔ / haɓooji, haɓooli	‘fight’	haɓude	‘to fight’
miilɔ / miilooji	‘thought’	miilde	‘to think’
sippirɔ / sippirooji	‘fight (organized, sport)’	sippirde	‘to fight’

These words are unmarked objects with regard to their derivational composition in relation to the verb stem from which they are derived. One plays a game, one fights a fight, one thinks a thought. The words can occur in any syntactic slot which can contain a noun. The following words show the objective word derivation of inchoative verbs.

seyɔ	‘joy’	seyaade	‘to be(come) happy, to enjoy’
tɔɓɔ / toɓooji	‘rain’	toɓude	‘to rain, to start raining’
yɔɔɔ	‘dryness, drought’	yɔɔrde	‘to be(come) dry, to dry up’

The objective word derivation in combination with inchoative verbs always describes the unmarked state following the change of state expressed by the inchoative verb. These verbs use the completive conjugations to indicate that this state is taking place in the present.

?ana toɓi	‘It rains.’
mi seyike	‘I am glad.’
?ana yoori	‘It is dry.’

Some of the nouns listed with the nominal stems could of course also be deverbal. The ignorance about some of the related verbs is unavoidable in a corpus of only 4000 words.

7.2.6.2 THE GRADE B SUFFIX FORM *-wɔ*

The suffix form *-wɔ* marks the associative word derivation. It is attached to stems that are either full nouns or loan words.

hum^mbɛɛwɔ / kum^mbɛɛje	‘paddle’ < Sorogo kumbe
suleɛwɔ / suleɛje	‘shoe’ < French soulier
kurfanuuwɔ / kurfanuuje	‘boot’
jaanuuwɔ / jaanuuje	‘stirrup (big type)’

The first two words are clearly loan-words. The sources of the stems of the last two words have not yet been traced. The words given here are integrated into the NGO class. The last three words are in the NGO class because of their association with the word shoe. The word **hum^mbɛɛwɔ** ‘paddle’ probably belongs to the NGO class because of its imperfect circle or hoof-like shape, another possible semantic link could be its use on rivers.

7.2.6.3 THE GRADE C SUFFIX FORM -**ḡḡ**

Only a few words combine with the form -**ḡḡ** as class suffix. As in other classes, the suffix form of the circumstantial word derivation is a combination of the class marker and the circumstantial word derivation expressing “mode, purpose, intention”. Words with the suffix -**ḡḡ** denote mainly places and instruments described by their purpose or usage. The circumstantial extension itself occurs in the surface form of the following example.

remir-ḡḡ / **demirdɛ** ‘agricultural tool’ < **remir-dɛ** ‘to cultivate with sth.’

The suffix -**ḡḡ** can also be attached to stems where the circumstantial extension does not occur in its surface form. Although the instrumental marker does not occur in the stem of the word **ḡḡḡḡ** ‘winnow’, its instrumental meaning and its subsequent choice of the -**ḡḡ** form of the class suffix is the reason for its analysis as a word derived with the circumstantial derivation .

ḡḡḡḡ / ḡḡrdɛ	‘winnowing basket’
ḡḡḡḡ / ḡḡaldɛ	‘hoof, nail’
ḡḡḡḡ / ḡḡḡḡḡḡ, ḡḡwɛ, ḡḡḡḡ	‘kraal fenced off with thorn-bush’

The etymology proposed for the word **ḡḡḡḡ** ‘hoof’ is a derivation from the verb stem **ḡḡl-** ‘to make noise’. This verb still occurs in the Aadamaawa dialect. The etymology of the word in the circumstantial derivation can be paraphrased as “imperfect circle shaped thing used for making noise”. The Maasina word **ḡḡl-ḡḡ** ‘nail’ also occurs in Zoubko (1980:241) with the prenasalized form of the suffix: **ḡḡl-ḡḡ** ‘nail, hoof’ with the abbreviation [M] to indicate that this form was found in a source describing Maasina. The word **ḡḡl-ḡḡ** ‘nail, hoof’ is formed using the subjective word derivation which gives a paraphrased etymology as ‘that which makes noise’. The form of the word ‘hoof’ is **ḡḡḡḡ** in Fuuta Tooro (Zoubko 1980:243). This shows that words expressing the same concept can have different derivational compositions emphasizing different aspects of that concept: a hoof seen as something that one can make noise with or a hoof seen as making noise itself.

The proposed etymology for the word **ḡḡḡḡ** ‘kraal’ is “an imperfect circle-shaped dwelling place used for enclosing sth.” describing an ‘enclosure’. This meaning has developed into the more specific meaning of ‘enclosure for cows’ or ‘kraal’. The word must be derived from the verb stem **ḡḡw-** ‘fence off/in, enclose’ (Klingenheben 1963:74). The plurals **ḡḡḡḡḡḡ** and **ḡḡḡḡ** show that the geminate consonant [ḡḡ] has been reanalyzed as part of the stem. The whole singular form is taken as the stem in the most frequently used plural form **ḡḡḡḡḡḡ**. Only the plural form **ḡḡwɛ** indicates that the geminate [ḡḡ] has been derived from the fusion of a stem final consonant with a suffix initial consonant. The presence of the instrumental meaning (purpose, use) is considered to be sufficient to support the separate semantic contribution of the circumstantial grade marker in the suffix form -**ḡḡ**.

7.2.6.4 THE GRADE D SUFFIX FORM -**ḡḡ**

Grade D nouns form a participle with the class suffix -**ḡḡ**. The verbal grade D stems can be followed by a verbal marker which expresses aspect (completive or incompletive) and

voice (active, middle or passive). The verbal marker which denotes active voice and completive aspect is **-u-** or \emptyset (zero) in participles. The active voice marker **-u-** which occurs in grade D nouns is often omitted.

The nouns which are derived from verbs as participles always denote the subject of the verb from which it is derived. The following words need some further explanation for their semantic interpretation. Their morphological shape indicates that they are derived from participles whose meanings have become specialized.

“(village) which has migrated”:	ferⁿgɔ	‘migration’
	ferude	‘to disperse, to migrate’
“that which is old, worn out”:	hiiⁿgɔ	‘first occupation’
	hiidⁿ-ude	‘to be old, worn out’
“that which is long”	juⁿgɔ / juude	‘hand and lower arm’
	juutude	‘to be long’
“that which has selected, chosen”:	sumⁿgɔ / cube	‘choice’
	subaade	‘to choose’
“that which is fastened”:	fedⁿeeⁿgɔ / pedⁿeeli	‘nail’
	fedude	‘to fasten, to fix, to button up’

No related verbs can be found for some words with the **-ⁿgɔ** class suffix. The morphology of these words is so similar to other participles that the verb is considered to have been lost, or else a semantic change in the verb or the participle has prevented me from finding the related verb of the following words.

fɔⁿgɔ / fɔⁿgɔoji, pɔɔmle	‘bank, waterside, riverside’
ɔⁿgɔ / ɔlle, ɔnle, ɔⁿge	‘hump of cow’
waaⁿgɔ / bande	‘lance’
waamⁿgɔ / baamle	‘hill’
wabⁿbuⁿgɔ / gabⁿbule	‘cheek’
wiifⁿɔⁿgɔ / biifⁿɔle	‘wing’
wippⁿɔⁿgɔ / bippⁿɔle	‘wing’

Further historical comparative study of the Fulfulde language and other related languages will be needed to give the precise etymology of the words above.

It is especially the participles formed with the verbal marker **-aa-** which form nouns denoting noises and noisy weather phenomena. The verbal marker **-aa-** indicates passive voice and completive aspect.

?ayaaⁿgɔ	‘light; flash of lightning’
faraaⁿgɔ	‘neighing of horse or donkey’
fɛnaaⁿgɔ / peɲaali	‘thunderclap’
fɔɔfaaⁿgɔ / pɔɔfaale, pɔɔfaali	‘breath, respiration’
gidaaⁿgɔ / gidaali	‘thunder, rumbling of thunder’
hijaaⁿgɔ / kijaali	‘neighing, sound of a horse’
majaaⁿgɔ, majjaaⁿgɔ	‘lightning’

wuttaaⁿgɔ / guttaali	‘whistling, flute’
jɔwtaaⁿgɔ / jɔwtaali	‘greeting’
wɔfaaⁿgɔ / gɔfaali	‘bark’
ʔuumaaⁿgɔ / ʔuumaali	‘groan, sigh’
majaaⁿgɔ	‘wink’

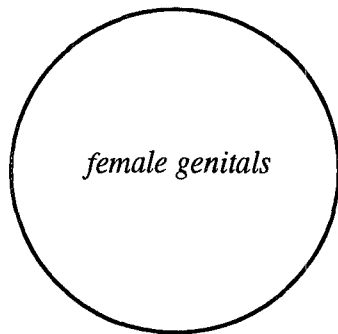
All the terms denoting noises given above can be related to existing verbs in the Maasina dialect. Only a few are given here to illustrate the connection between these verbs and the related participles denoting the noise.

wɔwlaaⁿgɔ	‘cry’	wowlude	‘to cry’
ɲaakaaⁿgɔ	‘sound of a donkey, braying’	ɲaakude	‘to bray’
ʔillaaⁿgɔ / ʔillaali	‘sneeze, sneezing’	ʔillude	‘to sneeze’

The passive completive marker **-aa-** with the subject pronoun **-ⁿgɔ** makes the etymology of the word **wɔwlaaⁿgɔ** literally “that which is being cried”, thus “a cry”. The same etymological scheme can be applied to all the other words denoting noises which are related to verbs expressing the action of making those noises.

7.2.7 THE NGU CLASS

There are only three words left in the NGU class in the Fulfulde spoken in the centre of Maasina. They all denote female genital organs, more precisely those genital organs which are affected by clitoridectomy*: the clitoris which is cut away, the labia which are amputated or mutilated, and the vagina which is sometimes partially closed by suturing the amputated labia using thorns as stitching material. The content of the NGU class as defined by the use of the concord **ⁿgu** is a set of words that share one semantic feature, i.e. they are a female genital organ.



ⁿguug-u ⁿgu	‘the clitoris, the vagina’
ton-u ⁿgu	‘the labia’
ɲamm-u ⁿgu	‘the vagina’

* It is impossible for the author to remain impartial on this subject. The closest approximation possible to objectivity can only be given by warning for the presence of my opinion and by indicating explicitly that I can neither understand, nor approve of this custom, especially because it is done to very young girls who cannot decide for themselves whether they want to undergo this treatment or not. The reader can form his/her own judgement, or not.

It is difficult to inquire about the exact meaning of these words. The most common translation given for all three words is “female sexual organ”. A large number of words use the concord of the NGU class in other dialects (e.g. Ringimaaji). The number of nouns in the NGU class is so small because the concord marker of the NGU class is a taboo word in the Fulfulde dialect of Maasina. A taboo on the words denoting female genitals in the NGU class is extended to a taboo on the class concord. Maasina speakers say that the reason for the taboo of the concord **ngu** is its resemblance with the word **nguugu** ‘clitoris’. The taboo is quite consciously present. People either started laughing or they looked away, shocked, when I was trying out forms of the demonstrative with the concord of the NGU class with other words. One person in Toggere Kumba claimed it was very well possible to say **ngu fonngu** ‘this mosquito’, but she had a lot of fun trying to convince her friends and family who shyly insisted that it is better to say **ʔɔɔ fonngu** ‘this mosquito’. Other words which have a class suffix of the NGU class use the concord of the 'O class as their concord in Maasina. That words with a suffix of the NGU class in Maasina once also used the concord of the NGU class, becomes apparent from a comparison of these words with the same words in other Fulfulde dialects where they still use the concord of the NGU class.

Maasina	Ringimaaji	
pucc-u ʔɔ	pucc-u ngu	‘the horse’
m̩baal-u ʔɔ	m̩baal-u ngu	‘the sheep’
lii-ngu ʔɔ	liji-ngu ngu	‘the fish’
m̩buubu ʔɔ	m̩buub-u ngu	‘the fly’
ɲuɲɲ-u ʔɔ	ɲuu-ngu ngu	‘the ant’
ngil-ngu ʔɔ	ngil-ngu ngu	‘the worm, caterpillar’
fonngu ʔɔ	ɓow-ngu ngu	‘the (type of) mosquito’
m̩bas-u ʔɔ	m̩bas-u ngu	‘the skin bag; scrotum’
wɔj-ere ɲɛ	m̩boj-u ngu	‘the hare’
m̩beew-a ba	m̩be ² -u ngu	‘the goat’

The last two words have not only changed their concord, their suffix is also taken from this other class. This indicates that a change in class can eventually also change the class suffix.

The taboo of this class marker falsifies the statement that a class marker has no meaning. How can a word be taboo if it has no meaning associated with it? The association of the meaning of the NGU class with the female genitals can also be shown by the comparison of the etymology of the following two words.

ton-ɲdu ɲdu	‘the lip’	*tɔn- + -ru
ton-u ngu	‘the labia’	*tɔn- + -u

The difference between the word for the lips around the mouth and the labia (lips) around the vagina is only made by the difference in class suffix.

The taboo cannot be related to a general taboo on sexual terms. The male genital part **m̩basu** ‘the scrotum’ does not remain in the NGU class, but changes its concord to that of the 'O class. Other class concords referring to other genitals including female genitals are not subject to taboo. These are for example the concord marker of the NDE class containing

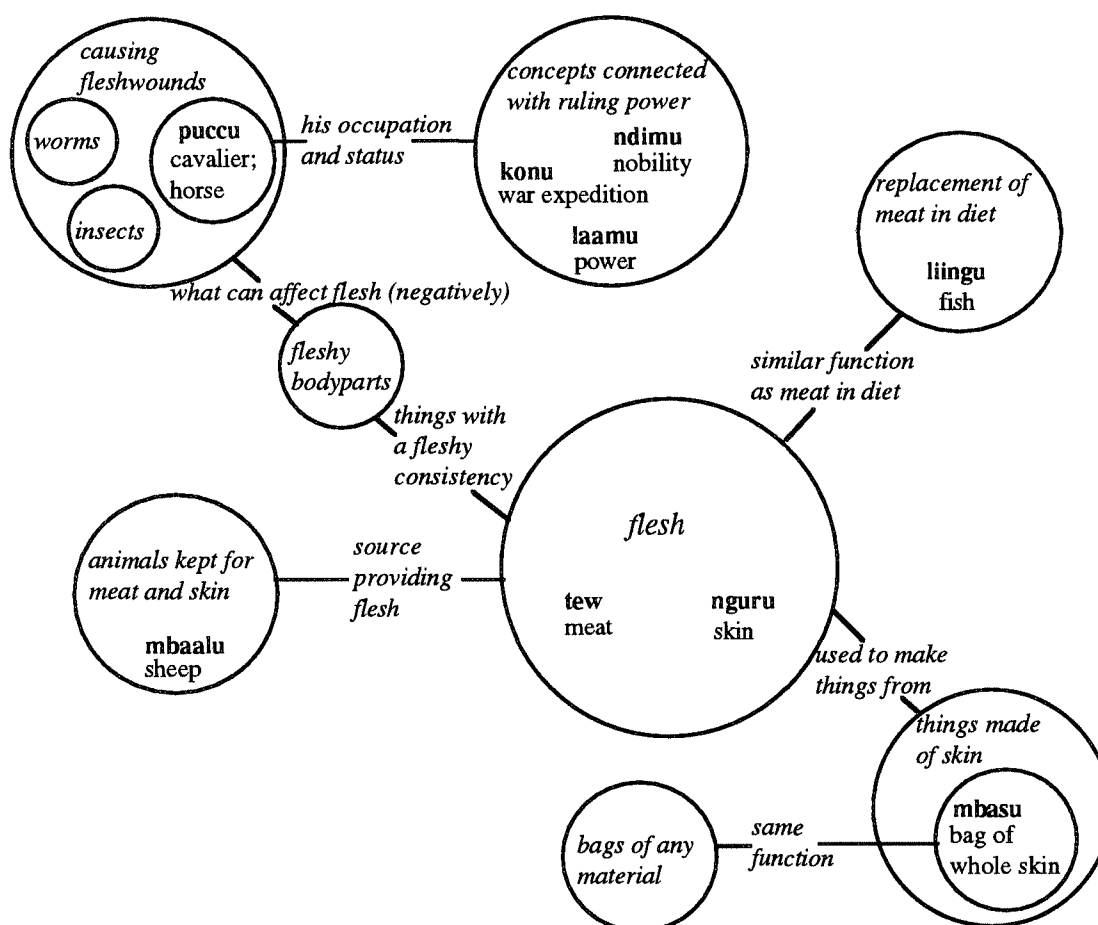
the words **hallere** 'penis' and **hottere** 'clitoris' and the concord marker of the KO class containing the word **guppo ko** 'the foreskin'.

Perhaps it is not a coincidence that the only words that remain in the NGU class are words related to the genitals involved in clitoridectomy. Mali is one of the areas where the severest form of clitoridectomy is practised. Many young girls and babies die because of complications caused by infections or simply because the wound won't stop bleeding. Other possible casualties can result from the complications of a difficult child birth when the vagina is sown together (Werner 1987:278). Death can be a reason for taboo, like the taboos on lethal animals in Fulfulde (Ba 1977:275). But death is more an unfortunate possible consequence of the clitoridectomy, rather than an inseparable semantic feature of it.

One of the questions is: what is the link between the taboo on the concord denoting female genital organs and clitoridectomy. Is there a general taboo on female genitals causing both the clitoridectomy and the status of the NGU class concord to be a taboo word? Or are new ideas about clitoridectomy causing the taboo on the NGU class concord which resulted in a reshuffle of the content of the NGU class? An indication of the fact that female circumcision is also a taboo subject is the fact that circumcision of boys at the age of six or seven is celebrated, whereas circumcision of girls at the age of two or three is done secretly without any form of celebration. But the taboo can also be more general, prescribing that anything which has to do with the female genitals has to be hidden. This is indicated for example by the fact that little boys can walk about naked, but little girls will always wear a pair of shorts or a wrapper.

Comparative data from the Fulfulde dialect of the Ringimaaji (Mbororo) in the North West Province of Cameroon support the hypothesis that there is a direct link between the practice of clitoridectomy and the taboo on the NGU class concord in Maasina. In Ringimaaji, there is no taboo on the concord of the NGU class and the circumcision of girls does not occur in this area. More investigation is needed to show the exact relation between the circumcision of girls and the taboo on the NGU class in Maasina. An investigation into the motivations for circumcision could perhaps also start a discussion on this subject to prevent more unnecessary suffering endured by girls and their relatives.

The taboo on the concord of the NGU class makes it difficult to recognize a word ending in a suffix of the NGU class. The comparison with other dialects without a taboo on the NGU class concord can give an answer about the original class of a word ending in -u with its concord in the 'O class. The taboo concord of the NGU class is replaced by the concord of the 'O class, but the class suffix is not. This indicates a difference of status between the class concord and the class suffix. The current exclusive association of the NGU class markers with the female genitals seems to be an innovation. The change of concord of words in the NGU class is also mentioned for Fuuta Tooro (Lex 1986:204). The words with a suffix of the NGU class cover a much wider range of semantic fields which are represented in the following network. This network is a reconstruction of the categories in the NGU class before the taboo on its concord diminished the content of this class, based on words like those listed below with a suffix of the NGU class.



<i>flesh</i>		<i>made from skin</i>		<i>bags</i>	
teew	meat	^m baggu	drum	caaku	bag
ⁿ guru	skin	^m basu	bag of skin		
				<i>worms</i>	
<i>fleshy body parts</i>		<i>insects</i>		ⁿ gi ⁿ gu	worm
^m basu	scrotum	^{fo} n ^g u	mosquito		
ⁿ guugu	clitoris	^{ju} u ⁿ u	ant	<i>replacing meat in diet</i>	
		^m buubu	fly	^{lii} ⁿ gu	fish
<i>ruling power</i>				^f i ^{na} aru	captain fish
laamu	ruling power	<i>horses</i>			
konu	war expedition	ⁿ dimu	thoroughbred	<i>animals kept for flesh</i>	
ⁿ dimu	nobility, elite	^{te} feewu	mare	^m baalu	sheep
pulaaku	Fulbe society	^{mo} lu	foal	^m be ² u	goat
politikaaku	politics	^p uccu	horse, cavalier		

The NGU class groups all the names for insects, the skin and parts of the skin (this was probably the association responsible for the placement of the female genital organs in this class), and objects made from skin like drums and sacs. Worms and insects could be placed in the NGU class because they can cause wounds in the skin. Worms and insects are also associated with meat because they can be found in meat, causing decay of the meat. The word **puccu** 'horse' denotes the animal, but also a warrior on horseback. The word **konu**

has the meaning 'war' in the dialect of Ringimaaji and it uses a concord of the NGU class. The word **konu** is translated as 'war expedition' in Fuuta Tooro. Perhaps the words **puccu** 'horse, warrior on horseback' and **konu** 'war' are in this class because of a semantic field of warfare associated with flesh-wounds. The word **"dimu** denotes both a 'thoroughbred mare' and 'nobility'. The word **"dimu** may be in this class because of the comparison of a thoroughbred horse with a someone bred as a noble person. Another possible explanation is the fact that nobility was achieved through warfare. Possibly the word **laamu** 'ruling power' is also in the NGU class because ruling power is achieved by warfare. Abstract nouns describing leadership and group formation formed with the suffix **-aaku** such as **politikaaku** 'politics, the politicians' are also in the NGU class. These words are possibly linked with words like **laamu** 'ruling power' and **"dimu** 'nobility'.

There is a strong association between the NGU class and horses which is shown by looking at the paradigms of the stems **rim-** 'noble', **tefe-** 'female animal', and **mɔl-** 'foal'.

puccu	'horse'		
"baaraagu	'stallion'		
gu²u	'stallion'		
"dimu	'thoroughbred mare'	dim-ɔ	'nobleman'
tefeewu	'mare'	tefe-wa	'she-ass'
molu	'foal, filly'	mɔl-a	'donkey's foal'

The class suffix indicates that the stem is describing a horse, just like the 'O class suffix indicates that a person is described in the word **dimɔ** 'nobleman', and just like the association with donkey appears when a BA class suffix occurs in the word **tefeewa** 'she-ass'. The association of the NGU class with horse is present for the speakers that use the concord **"gu** with horses. This association seems strong and innocent enough to overrule the taboo association of the NGU class concord with female genitals. A strong semantic link between the NGU class and horses might explain the fact that a consultant (from Gimballa) allowed the use of the concord of the NGU class also for the word **puccu** 'horse' and other horse names. A consultant from Duwansa in the Haayre used a concord **ku** to refer to the word **puccu** 'horse'. It looks as if a KU class is innovated to cope with the taboo on the **"gu** concord. So far the concord **ku** is only found to refer to the word **puccu** 'horse'. Further research is necessary to find out whether more words can be found in a possible new KU class. Examples of the use of a concord **ku** are also listed in the data collected in Maasina in the villages of Atara and Gaaci Luumo and in Gimballa in the villages of Yuwaru, Nyafunke, and Hoore Aaya (MAPE 1983a).

The following suffix forms of the NGU class are found on words which formerly belonged to that class. These words are still formed with a suffix of the NGU class but they use the concord of the 'O class.

grade A:	-u	objective word derivation
grade B:	-wu	associative word derivation
grade C:	-gu	circumstantial word derivation
grade D:	-"gu	subjective word derivation

The initial consonant of words with a suffix from the NGU class is prenasalized. This initial consonant can also be an indication that the suffix is from the NGU class.

7.2.7.1 THE GRADE A SUFFIX FORM -u

Most words with a class suffix of the NGU class combine with the suffix form -u denoting objects formerly associated with the NGU class or cognate objects and cognate states when derived from verb stems.

^m baal-u / baali	'sheep'
^m bagg-u / baggi	'drum'
^m bedf-u / bedfi	'lid (round, made from woven grass)'
^m beel-u / beeli	'shadow, reflection'
^m boort-u / boorti	'lamb'
^m buudf-u / buudfi	'coin (5 CFA)'
ⁿ gabb-u / gabbi	'hippo'
ⁿ gur-u / guri	'skin, leather'
ⁿ duuf-u / duufi	'year'
tew, teew, teew-u	'meat'
^m buub-u / buubi	'fly'
ɲuɲɲ-u / ɲuɲɲi	'ant'
ɲaak-u / ɲaaki	'bee'
^m bas-u / basi	'bag of goat skin; scrotum'

Abstract nouns which are formed with a suffix -aaku use the concord of the 'O class in Maasina.

Maasina:

ⁿ eddf-aaku	'humaneness; humanity'	ⁿ eddf-ɔ	'person'
ban ⁿ diraaku	'kinship'	ban ⁿ diraadɔ	'relative'
dendiraaku	'cross-cousin-ship'	dendiraadɔ	'cross-cousin'
ⁿ dun ⁿ daraaku	'audacity'	dun ⁿ darɔ	'bold person'
pamaraaku	'smallness (humans)'	pamarɔ	'small (person)'
kɔɔfaaku	'being a guest'	kɔɔɔ	'guest'
kaanɲkaaku	'leadership'	kaanɲke	'leader'
ⁿ dimaaku	'nobility'	ⁿ dimu	'thoroughbred'
cukaaku	'youth'	suka	'youth'
maɲ ⁿ gaaku	'age, old age'	mawdɔ	'old person'
[?] alsilamaaku	'Islam'	[?] alsilaame	'Muslim'
beetaaku	'(in the) morning'	beete	'morning'
pulaaku	'Fulbe community'	fulbe	'Fulbe'

Words formed with the same suffix -aaku are referred to with a concord of the NGU class in other Fulfulde dialects (Zoubko 1980).

other dialects:

pulaaku ⁿ gu	‘characteristic qualities of the Fulbe’
kodfaaku ⁿ gu	‘hospitality; situation as guest or stranger’
ned’daaku ⁿ gu	‘humanity, humaneness; self respect’
cukaaku ⁿ gu	‘youth’ (period and people)
mangaaku ⁿ gu	‘pride’
liimaanaaku ⁿ gu	‘belief, faith, honour’

A few words combine with a morpheme **-aagu** in Maasina. This suffix is similar in form and it seems to have the same meaning as the morpheme **-aaku**. Both suffixes are used to form abstract nouns.

Maasina:

ʔesiraagu	‘relation between in-laws’	ʔesiraa-dɔ	‘in-law’
gijiraagu	‘friendship’	gijiraa-dɔ	‘friend’

Words ending in **-aagu** are referred to with a concord of the NGU class in other dialects. Words that end in **-aaku** in Maasina sometimes end in **-aagu** in other Fulfulde dialects (Azarya 1993, Zoubko 1980).

other dialects:

pulaagu ⁿ gu	‘characteristic qualities of the Fulbe’
bandiraagu ⁿ gu	‘kinship’
dend’iraagu ⁿ gu	‘relations between cousins’
ndimaagu ⁿ gu	‘liberty; nobility; stallion’
dimaagu ⁿ gu	‘liberty; nobility; stallion’

Zoubko (1980) even lists some words where the form of the suffix is **-aaⁿgu**.

other dialects:

pulaaⁿgu ⁿ gu	‘characteristic qualities of the Fulbe’
kod’aaⁿgu ⁿ gu	‘hospitality; situation as guest or stranger’

There is a suffix **-aaxu** in the Soninke language (Tioulenta, personal communication). The dialect of Maasina has also borrowed the suffix **-ŋke** ‘person from’ from the Soninke language. The former suffix is borrowed as **-aaku**, **-aagu**, or **-aaⁿgu** where the consonant [x] has undergone different phonological changes. The final vowel of the suffix **-aaku** has been interpreted as the suffix of the NGU class in dialects which use the concord **-ⁿgu**. The last syllable **-xu** in Soninke has been interpreted as the suffix of the NGU class in the dialects which show the suffix forms **-aagu** and **-aaⁿgu**.

The suffix **-aaku/-aagu/-aaⁿgu** expresses the meaning “coherent total of” combining both interpretations of “entirety of” and “characteristics of”. The exact meaning is further determined by the content of the stem. The words derived from the stem of a singular word form and the suffix **-aaku** express mainly the total set of characteristics of such an individual.

dəbb-aaku	'femininity'	dəbb-ɔ	'woman'
ⁿgɔrk-aaku	'masculinity'	gɔrk-ɔ	'man'

The meaning of the derivation is interpreted as all those individuals, the total of such persons, when the word is derived from the stem in a plural word form and the suffix **-aaku**.

ⁿdew-aaku	'the female gender' (all women)	rew-ɓe	'women'
ⁿgɔr-aaku	'the male gender' (all men)	wɔr-ɓe	'men'

The difference lies mainly in the stem from which the words are derived. The nouns expressing totality are based on the form of the stem in the plural: **rewɓe** 'women' and **wɔrɓe** 'men'. The nouns expressing characteristics are based on the form of the stem found in the singular words **dəbbɔ** 'woman' and **gɔrkɔ** 'man'. One older informant gave the following words, their formation is in agreement with the above derivations.

pul-aaku	'Fulbe society, all the Fulbe'	ful-ɓe	plural form
pull-aaku	'Fulbe characteristics'	pull-ɔ	singular form

The existence of the word **pullaaku** was however denied by other consultants of Maasinankooore. The word **pulaaku** is always consequently translated as 'all the Fulbe' or 'Fulbe society' ("société peule, tous les peuls"), its translation as 'characteristics of the Fulbe' is categorically denied in Maasina.

The hypothesis is that both meanings "characteristics of" and "all, total" are present in the suffix **-aaku** whose basic meaning can therefore be best described as "coherent total of". The two possible interpretations depend on other semantic information which is present in the stem.

7.2.7.2 THE GRADE B SUFFIX FORM **-wu**

The suffix form **-wu** marks the associative word formation. It expresses the fact that the concept linked to the class marker has a semantic feature in common with the word that serves as its noun stem.

ⁿgiroowu / girooji	'pig'	< *giro-
tefeewu / tefeeji	'mare'	< *tefe-

The exact etymology of the above words is not clear because neither the origin nor the meaning of the words that serve as the stem are known.

7.2.7.3 THE GRADE C SUFFIX FORM **-gu**

The suffix form **-gu** marks the circumstantial word derivation. Grade C suffixes are often used to indicate "purpose, mode, intention". There are only a few nouns with the allomorph **-gu** as class suffix of the NGU class.

^mbaaraagu / baaraadi	‘white horse’
ⁿdimaagu	‘stallion’

The appearance of the form **-aagu** in the words **ⁿdimaagu** ‘stallion’ and **^mbaaraagu** ‘white horse’ has another explanation than the abstract noun formation involving **-aaku**. The combination of the word **ⁿdimaagu** ‘stallion’ with a suffix form **-gu** can be explained by the fact that the word is derived from the verb **rimude** ‘to give birth’. The stallion is “a horse used for making mares give birth”. The “purpose or use” of the stallion is reproduction. The circumstantial marker indicates that a stallion does not give birth itself, but it is a (necessary) circumstance in the reproduction of horses. It is not obvious what the purpose of a **^mbaaraagu** ‘white horse’ is. The verb stem **waarude** ‘to look like, to resemble’ suggests that its “purpose or use” is to resemble something.

7.2.7.4 THE GRADE D SUFFIX FORM **-ⁿgu**

There are not many nouns that show a suffix form **-ⁿgu** as a remnant of the NGU class suffix.

maⁿgu	‘greatness’	mawnude	‘to be(come) great’
ḡeyⁿgu	‘offspring’	ḡeynude	‘to bring forth, to give birth’

The suffix **-ⁿgu** is the subject pronoun in the formation of participles. Again, it is the morphological formation using the suffix form which is identical to the subject concord that points in this direction. Further research is needed to clarify the exact etymological relation between the derived words and the verb stems. No obviously related verb that can serve as stem for the participle can be found for the following few words that combine with the suffix **-ⁿgu**.

ḡoⁿgu / ḡowdi	‘mosquito’	ḡowta	‘swell’ (Zoubko 1980:94)
liiⁿgu / lidḡi	‘fish’	liyaade	‘pour hot oil over food (as sauce)’
ⁿgilⁿgu / gildḡi	‘worm’	yila	‘start; disappear’
		yiila	‘go round’

Comparison with cognate forms of the word **liiⁿgu** ‘fish’ in other dialects suggests a complicated derivation.

liiⁿgu / lidḡi	‘fish’ [Maasina]
liiⁿgu / lijji	‘fish’ [Liptaako] (Bidaud and Prost 1982:34)
lijⁿgu, lijⁿgu / lijji	‘fish’ [Ringimaaji]
li²ⁿgu, liiⁿgu / lidḡi	‘fish’ [Jamaare] (Noye 1989:224)

Possibly the word for fish is derived from a stem ***lij-** or ***liy-** ‘to provide oily sauce’. Such a verb stem could explain the objective derivation of the word **li²ḡ kḡ** ‘the oily sauce’ [Jamaare]. This stem appears also in the verb **liyaade** ‘pour hot liquid oil over food’ [Maasina], where the [j] has become [y]. Fish oil is a product that is very familiar and must have a long history of use in Maasina. The following tentative hypothesis describes the

historical derivation. The consonant [j] has been subject to change in many dialects. It is often replaced by a glottal stop [ʔ]. The glottal stop is often lost when it occurs between two identical vowels.

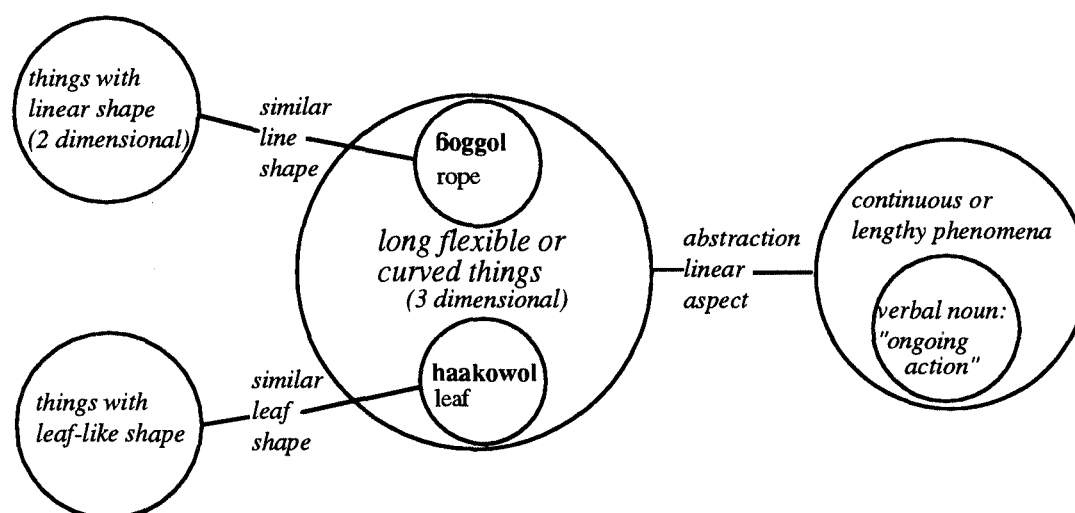
objective derivation *lij + *hɔ > *lijɔ > li²ɔ 'oily sauce' (fish oil?)
 subjective derivation *lij + ⁿgu > lijⁿgu > lijⁱⁿgu > li²iⁿgu > liiⁿgu 'fish'
 > li²ⁿgu > liiⁿgu
 *lij + dɪ > lijji 'fishes'
 > lid²dɪ

The different suffix forms are all rather exceptional. The occurrence of a prenasalized suffix -ⁿgu in the singular suggests that this word is derived from a participle. Therefore the hypothesis is that this stem combines (underlyingly or historically) also in the plural with the suffix form of the 'DI class in participles -dɪ, and not the vowel initial suffix -i.

The taboo on the use of the concord ⁿgu also explains why there are no forms of this class in the agentive noun formation and why there are so few participle forms in the NGU class. This is because these productive noun formations would all be based on the use of the class suffix ⁿgu as concord marker which is taboo.

7.2.8 THE NGOL CLASS

The following semantic network is proposed for the NGOL class.



long flexible objects

foggol rope
haakowol leaf
lee^mbol hair, feather
binⁿdirgol writing feather
lapol climbing plant

leaf shape

d'erewol piece of paper
kufol grass stalk shell, scale

line shape

gasol furrow
laawol road
d'atol path
keerol boundary

ongoing action ("V-ing")

winⁿdugol 'writing'
foosugol 'massaging'
durgol 'pasturing cattle; cattle-breeding'

continuous/lengthy concepts

binⁿdol writing
lepol lineage
jaapnelol clan
kulol fear
bomol dance

Many words in the NGOL class can be semantically linked to the word **ɓoggol** ‘rope’. They denote long thin flexible objects which are not straight (opposing words related to **leggal** ‘stick’ of the NGAL class which are stiff and straight). The long, thin, and flexible meaning or aspects of it apply also to words connected with the meaning of **haakowol** ‘leaf’ like **ɗerewol** ‘piece of paper’ and **kufol** ‘shell of groundnut, scales of fish’. The only animal appearing in the NGOL class is the snake, because it is referred to with the euphemistic expression **ɓoggol leydi** ‘snake’ which literally means “rope of the earth”.

Like rope, roads and paths also have a long and curved shape and thus not surprisingly the words denoting roads and paths belong to the NGOL class. The nouns in the NGOL class denoting landscape features could have entered the NGOL class on the analogy of words like **ɗatol** ‘path’. Most of these landscape features also can be described as long (like **gasol** ‘furrow’). A word like **kaakol** ‘kitchenware’ is perhaps in the NGOL class because the calabash which is used to make kitchenware grows on a **lapol** ‘(climbing or) creeping plant’.

A linear connotation is found in a number of nouns, e.g. **koŋⁿgol** ‘phrase’ and **binⁿdol** ‘writing’. The abstraction of a linear connotation is present in the words **jaapⁿelol** ‘lineage’ and **lepⁿol** ‘clan’, i.e. relating to the line of descent. The abstraction of lengthiness and continuity of a line motivates the presence of words like **kulol** ‘fear’ in the NGOL class.

The vowel [o] in all suffixes of the NGOL class has the feature [+ATR]. It triggers ATR harmony of vowels in the stem that precede the [+ATR] vowel [o] (see section 2.9.3). The initial consonant of stems that combine with a suffix of the NGOL class is taken from the plosive series, as is the case with all suffixes that end in [l]. The suffix forms occurring in the NGOL class are given in the following table.

grade A:	-ol	objective word derivation
grade B:	-wol	associative word derivation
grade C:	-gol	circumstantial word derivation: “action of” verbal noun marker denoting instrument by its purpose
grade D:	-ⁿgol	subjective word derivation

The distribution of the different suffix forms in the NGOL class is discussed in the sections below.

7.2.8.1 THE GRADE A SUFFIX FORM -ol

The suffix form **-ol** marks words formed using the objective word derivation. Many of them contain simple nominal stems. The following examples are ordered semantically following the categorization of the semantic content of the NGOL class given above.

rope: long, thin, flexible

ɓogg-ol / ɓoggi	‘rope’
bal-ol / bali	‘stroke of leaf of palm (to weave mats)’
kudⁿ-ol / kudⁿi	‘blade of grass, grass-stalk’
leem^b-ol / leefi	‘hair, feather’
kaam-ol / kaami	‘girth, belly band’
kodⁿ-ol / kodⁿi	‘chain’

lef-ol / leppi	‘woven strip’
ladd-ol / laddi	‘snake’
kom^mb-ol / kom^mbi	‘hem, edge of cloth’
cuuf-ol / cuufi	‘seam’
kuut-ol / kuuti	‘penis’ (insult)
taltal-ol / taltaldi	‘rein, bridle rein’
<i>line shape: road</i>	
laaw-ol / laabi	‘road’
burt-ol / burti	‘migration route’
ɗat-ol / ɗati	‘road, path in the bush’
jeɛŋ-ol	‘seasonal trekking’
keer-ol / keeri	‘boundary’
ɲep-ol / ɲepi	‘decoration on calabash’
doŋ-ol / doŋi	‘temporary elevation during flooding’
gaaf-ol / gaafi	‘area measure (about half a hectare)’
gebb-ol / gebbi	‘slope in the landscape’
<i>linear sense</i>	
koŋ^g-ol / koŋ^gi	‘word, phrase’
bed-ol / bedi	‘magic secret to make someone or sth. emigrate’
lep-ol / lepi	‘clan’
kooj-ol / kooji	‘saliva accumulated during sleep’

The deverbal nouns which combine with the suffix form **-ol** denote unmarked or cognate objects from the verb stem from which they are derived.

diid-ol / diidi	‘line, stripe’	diidude	‘to draw a line’
bom-ol / bomi	‘dance’	womude	‘to dance’
jim-ol / jimi	‘song’	yimude	‘to sing’
taalol / taali	‘story, fable’	taalude	‘to tell (a story)’
binⁿdol / binⁿdi	‘writing’	winⁿdude	‘to write’
dad^ool / dadⁱ	‘rope to tie calves to’	rad^oude	‘to tie at the neck’
dawol / dawo	‘journey’	dawude	‘to travel’
duhol, duwol / duhi	‘belt of trousers’	duutaade	‘to loosen a belt’
gasol / gasi	‘furrow, gully, trench’	ʔasude	‘to dig’
kumol / kumi	‘cord worn over garment’	humaade	‘to put on, fasten’
lanⁿdol / lanⁿdi	‘question’	lanⁿdaade	‘to ask’
ceelol / ceeli	‘leather string’	seelude	‘to cut up in pieces’
moorol / moolli, mooli	‘braid, plait’	mɔɔrde	‘to plait’
jaapelol / jaapeli, jaapuli	‘family, clan, lineage’	jaapude	‘to return the herd to the domicile’

The noun formed by an inchoative verb stem with the suffix form **-ol** expresses the unmarked or cognate state resulting from the change of state expressed by the verb. The following words are examples of cognate states in the NGOL class.

ɓuufol	‘coldness, dampness’	ɓuufude	‘to be(come) cold’
kulol	‘fear’	hulde	‘to fear’
piiⁿd-ol	‘flowering season’	fiiⁿdude	‘to flower’
jaaⁿgol / jaali,	‘cold’	jaaⁿgude	‘to be cold (of weather)’
jaaⁿgooli			

Here as elsewhere in this study, “objective” is understood in a broad sense. It means that the derived word describes the object of the verb. It can be its patient, but also the state or result of the related verb. Thus, **jim-ol** ‘song’ is what is being sung, the cognate object of **yim-ude** ‘to sing’. The word **taal-ol** ‘story’ denotes what is being told, the object of **taal-aade** ‘to tell’. The suffix **-ol** forms nouns which express a state or result when it is derived from stative verbs. The word **kulol** ‘fear’ denotes the resulting state of the verb **hul-de** ‘to fear’, **ɓuuf-ol** ‘cold’ is the resulting state of the inchoative verb **ɓuuf-ude** ‘to be cold’.

7.2.8.2 THE GRADE B SUFFIX FORM **-wol**

The suffix form **-wol** occurs after a few stems which end in a vowel. The semantic content is similar to that of the list of nouns connected with long and linear things given above. All stems which form nouns using the associative word derivation are suspected to have as their stem either a loan-word or a full noun with a class suffix.

haakowol / haakooji	‘leaf’	haako	‘foliage’
ʔujunerewol / ʔujunereeji	‘bank note, 5000 CFA’	ʔujunere	‘1000’
ɓuurewol	‘ball of butter’	beurre	‘butter’ [Fr.]
kokowol / kookooji	‘wall’	kógó	‘wall’ [Bmb.]
korewol	‘dependent, subordinate’	kore	‘relative’ [Son.]

The origin of the following vowel final stems is not known.

d̥erewol / d̥ereeji	‘piece of paper’
gaarawol / gaaraaji	‘thread’
baakowol	‘leather band with amulet’
^mbojewol	‘leather belt with little iron bells’
culuŋkoowol / culuŋkooji	‘little bell’

The meaning of this morpheme should account for the use of the suffix **-wol** on stems which are in itself full words. These full words can also be loan-words. A combination of such a stem with the associative derivation suffix results in the following etymology: “thing of NGOL class with an association or a semantic feature shared with the concept which is expressed in the stem”. When we take the semantic characteristic of the NGOL class we can rephrase the nouns which take the suffix **-wol** as “long thin flexible object that is like X”, whereby X should be filled in with the meaning of the word which forms the stem of this noun. Thus, **haakowol** ‘leaf’ is a long thin flexible thing which is like **haako** ‘foliage’.

The two words with a stem containing the form **-amaa-** are formed with the morpheme **-amaa-** ‘serving for’ (cf. section 7.2.5.2) which generally is followed by the continuant

initial suffix form. It is possibly related to the passive form of the indefinite. The verb forms with the morpheme **-amaa-** must be taken as full words from which the following nouns have been derived.

bakamaawol	‘shoulder strap’
faramaawol	‘pretty belt, to decorate a horse’s head’

The word **bakamaawol** ‘shoulder strap’ is related to the verb stem **wakk-** ‘put a load on the shoulder’ (Zoubko 1980:499). The **bakamaawol** is literally “a rope that serves to put a load on one’s shoulders”.

The literal meaning of **faramaawol** ‘pretty belt to decorate a horse’s head’ could be “rope which serves to neigh” if it is derived from the verb stem **farde** ‘neigh, making of a gay sound by a horse after drinking’. Perhaps attaching the decorated belt on the head of a horse causes neighing of the horse, which is supposed to express its joy over the nice decoration. The word **faramaawol** seems also to be connected with the word **faram** ‘head-dress which allows a horse to drink’. The word **faram** is possibly an abbreviation of the long form, because shortening of long words to disyllabic words can be observed elsewhere in the language (cf. **jɔm-wurɔ** > **jɔwrɔ** ‘who organizes access rights to pastures and water, lit: owner of Fulbe village), and because the form **faram** is otherwise hard to explain. A suffix of the class denoting mostly liquids **-am** attached to the stem of the verb **far-** ‘neigh’ is not a likely etymology for this word.

7.2.8.3 THE GRADE C SUFFIX FORMS **-gol** AND **-ⁿgol**

In the corpus there is one instrumental noun formed with the suffix **-gol** which could be used to demonstrate the meaning of “purpose” expressed by the circumstantial grade marker.

binⁿdir-gol	‘feather to write with’ as opposed to:
binⁿdir-gal	‘stick to write with’ = ‘pen’

The word **binⁿdirgol** ‘writing feather’ takes the plosive initial suffix **-gol** on the analogy of the word **binⁿdirgal** (Zoubko 1980:71) ‘writing reed’. The word **binⁿdirgol** ‘writing feather’ is associated with the NGOL class, because a feather is long and flexible. The word **binⁿdirgal** ‘writing reed’ is associated with the NGAL class, because a reed is long and straight like a stick. The **-ir-** extension always combines with the suffix of the circumstantial derivation. The suffix **-gol** in the word **binⁿdirgol** ‘writing feather’ is the form chosen on the analogy of other instrumental noun formations.

The suffix form **-gol** can also combine with a verb stem to form a verbal noun with the meaning “action of”. This results in a meaning “state of” in combination with verbs expressing a state. This distinctive meaning of the suffix form **-gol** is formed on the analogy of the formation of the infinitive noun **-de** and is equally productive. Where the infinitive marker **-de** denotes “the possible and intended occurrence of the action expressed by the verb at an indefinite moment in time”. The “action noun” or “gerund verbal noun” formed with the gerund marker **-gol** denotes practically the same concept, but over a longer period

of time. The meaning of the length of the moment is a consequence from the combination with the meaning of NGOL class. Thus, the “action noun” or gerund is paraphrased as “the possible and intended occurrence of the action expressed by the verb over an indefinite long period of time”.

winⁿdugol	‘act of writing’
foosugol	‘action of massaging’
durgol	‘action of pasturing cattle; cattle-breeding’
laafugol	‘state of being clean’
leefugol	‘wetness’
moddugol	‘thickness’
moobugol	‘gathering’
moorgol, moorugol	‘plaiting’
polgol, polugol	‘rotting’
sawrugol	‘treatment’
selbugol	‘being liquid’
wartugol	‘return, action of returning’
yaagol	‘going’
yarragol	‘permission’
ʔeggugol	‘moving, removal’
tekkugol	‘solidity’
ʔaawgol	‘sowing, setting’

These verbal nouns do not show initial consonant alternation. They always keep the basic consonant as the initial consonant. Alternation with a plosive initial consonant is a rule for all other regular nouns of the NGOL class. These verbal nouns are an exception to this rule.

The suffix form of the circumstantial word derivation has an allomorph **-ⁿgol** which occurs due to automatic prenasalization of voiced consonants after a stem which ends in a nasal consonant (cf. section 2.3.3).

tinⁿdiqⁿgol	‘advice, advising’
laamⁿgol	‘cleanliness’

The form **laamⁿgol** is derived from **laafugol** when it was shortened to a disyllabic word. The stem final consonant [ɸ] cannot occur in syllable final position, therefore the stem final consonant has alternated with the nasal consonant [m] which conditions the prenasalized suffix form **-ⁿgol** of the verbal noun marker “action of”.

The verbal nouns above do not have a plural form. They are words expressing an action of state that cannot be pluralized. The following noun formed with the **-gol** suffix does have a plural.

giggol / gilli	‘friendship’
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The word **giggol** could be derived from a verbal noun based on the verb stem **yid-** ‘love, like, want’. This derivation could not have been a recent derivation, because the initial

alternation of the verb is *y-j-nj* synchronically. The word differs from the verbal nouns in that it actually changes its initial consonant of the stem. The exact etymology of this word is not clear.

7.2.8.4 THE GRADE D SUFFIX FORM -ⁿgol

On analogy with the hypothesis for all prenasalized initial class suffixes, the hypothesis is that the suffix form -ⁿgol is the subject concord which is derived from a referential pronoun marker **n* and the concord **ʎol*. The nouns whose stems combine with such a prenasalized suffix are participles. Participles are formed by a subjective word derivation which is characterized by the use of the subject concord as suffix. To support this hypothesis, the semantic composition of these stems and prenasalized suffixes should result in the denotation of a possible subject of the verb stems that occur in these participles. The number of nouns which are derived from participles in the NGOL class is not high.

“that which is cut away, harvested ”: (from fresh milk)	kettuⁿgol	‘layer of cream on the milk’
	hettude	‘to cut off, to harvest’
“(time stretch) that is sleepy”	doyⁿgol / doyli	‘sleep, sleepiness’
	doy-d-ude	‘to be sleepy’
“that which starts happily”	jaaⁿgude	‘to be cold’
	jaaⁿgol / jaali,	‘cold weather, cold period’
	jaaⁿgooli	(after rainy season, with initial harvest time)
	yaal-	‘start happily, good’
“(rope) which attaches calves”:	daaⁿgol / daadi	‘calf-rope’
	radude	‘to attach calves at the neck’

Only the plural form **jaali** indicates that the stem final consonant was probably [l]. The verb **jaaⁿgude** ‘to be cold’ indicates that synchronically the prenasalized voiced velar consonant [n^g] can be analyzed as the stem final consonant. The formation of the word **jaaⁿgol** ‘cold’ is possibly based on a verb stem **yaal-** that has several meanings: ‘alleviate hunger without being satisfied; start happily, good; be on the right track; meet, visit frequently’ (Zoubko 1980:528). The meaning “start happily, good” is chosen here to explain the prenasalized suffix as the subject pronoun in **jaaⁿgol** ‘cold’. The cold period actually does start with a harvest season, when life should be easy. The cold period does coincide with the change from the western old to the new year. The word **jaaⁿgol** refers to the beginning of the year which is the cold period. The seasons in Fulfulde also follow the solar year, not the Islamic lunar year. A particular star appears five nights in a row at the beginning of the cold period. If it is very cold during the appearance of these stars, one can predict that the next harvest and thus also the coming year will be very good. It is possible that the word **jaaⁿgol** comes from the good (cold) start of the year which is thought to predict a prosperous year.

There remain a few words which combine with the prenasalized suffix -ⁿgol that appear to be participles by their morphological formation. However, the verb stems which should support the hypothesis that these words are participles are not attested. The difference in vowel length between **daaⁿgol** ‘calf-rope’ and the verb **radude** also poses a problem for the

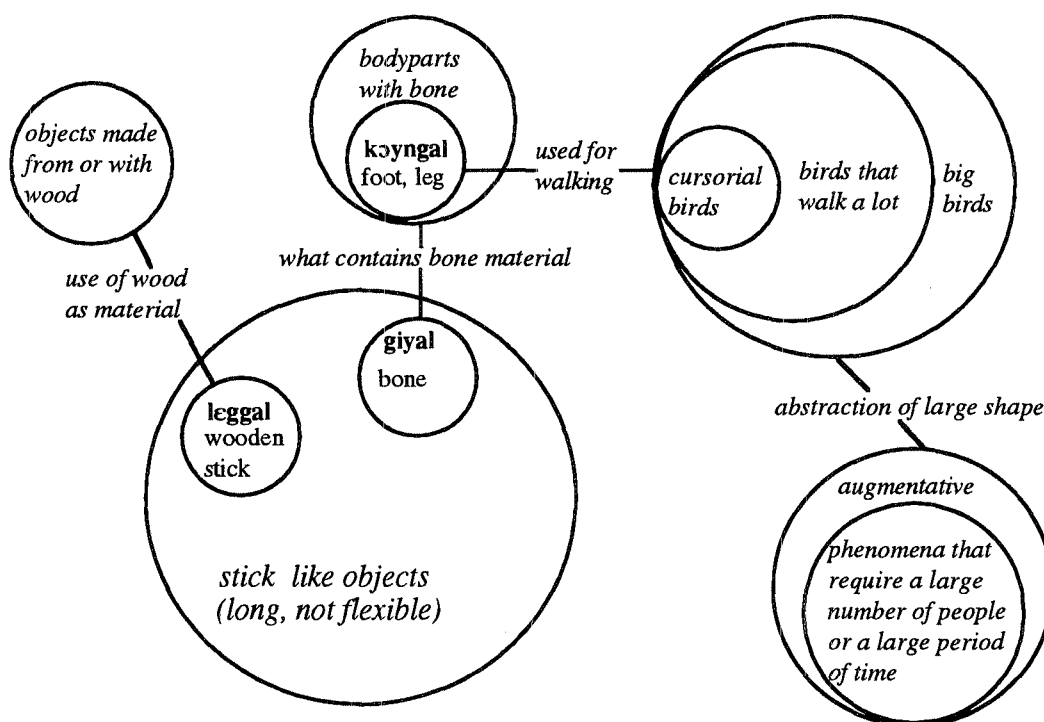
derivation of these two words. The supposition is that the related verbs have been lost, or semantic shift has obscured the relation between the verb stems and the derived participles.

caaⁿgol / caali, caandi 'stream'
cuurⁿgol fatumata binta 'rainbow' (lit: ribbon of the daughter of Mohammed)

The general tendency that nouns with a prenasalized class suffix describe nouns denoting the subject of the related verb stem is also supported by the nouns ending in the prenasalized suffix form of the NGOL class.

7.2.9 THE NGAL CLASS

The following network of associations is proposed to represent the semantic grouping and the links that motivate the membership of words in the NGAL class.



stick shape

mesalal	needle
kuulal	yard
niiral	reed
giyal	bone
<i>made of wood:</i>	
lahal	wooden bowl
ʔalluwal	wooden slate
baafal	door leaf
<i>houses built with wood:</i>	
bee ^m bal	silo
dudal	Koran school
ɔalhal	walled corral

body parts with bone

caggal	back
luuwal	horn
ʔardutal	foreleg
<i>walking:</i>	
cuudal	trot
bam ^m balijewal	gallop
<i>cursorial birds:</i>	
gerral	wild partridge
gertogal	white fowl
ⁿ dawwal	ostrich
<i>big birds</i>	
ɖufal	vulture

birds that walk a lot:

ɔofal	chicken
caygal	goose
<i>augmentative</i>	
paalal	large gourd
jii ⁿ gal	big tooth
<i>requires a long period of time</i>	
ʔan ⁿ dal	knowledge
mupal	patience
<i>requires many people</i>	
kawrital	meeting
dewgal	wedding

The NGAL class has a large number of members. They can be divided into several semantic groups. A large part of the class consists of words which are semantically grouped around the key term **leggal** 'wooden stick'. Words can be grouped with stick for various reasons: because they have the shape of a stick (**luuwal** 'horn', **məsalal** 'needle', **kuulal** 'yard', **giyal** 'bone'), because they are also made of wood (**lahal** 'wooden bowl', **ʔalluwal** 'wooden slate'), and because their construction is based on wooden sticks (**baafal** 'door', **garuwal** 'mud house', **bee^mbal** 'silo'). The body parts that belong to this class are linked to the word bone, because they contain bone (**balawal** 'shoulder', **caggal** 'back', **tergal** 'limb', **kɔyⁿgal** 'foot and lower leg'). Words denoting different manners of walking are in the NGAL class because of their association with **kɔyⁿgal** 'foot'. Cursorial birds are also classified in the NGAL class because of the word **kɔyⁿgal** 'foot'. The group of cursorial birds is extended to "birds that walk a lot". These birds are generally bigger than the small flying birds which are classified in the NDU class. The augmentative connotation of the big birds in the NGAL class may have led to the inflectional use of the NGAL class suffix as the marker of augmentative nouns. Words denoting periods (harvest, marriage, flowering season) fall in the NGAL class, possibly because they stretch over a larger period of time. The abstract nouns in the NGAL class can be associated with the augmentative meaning of the NGAL class. For example, words denoting human activities are in the NGAL class because they involve a larger number of people (wedding, meeting, tradition, feast of entering the Inner Delta) or because they are formed over a larger period of time (knowledge, decision, patience, existence).

There remain a few words which are difficult to group semantically with the subclasses outlined above (**cɔbbal** 'dust', **natal** 'picture'). For some words an internal semantic categorization is possible (the membership of **mettaⁿgal** 'flame' could be motivated on the grounds that it has a shape comparable to that of **dɛŋⁿgal** 'tongue').

The augmentative nouns are related to a normal size version of the noun, i.e. the same noun stem also occurs in another class.

cuur-al / cuureele	'big house, big room'	suudu	'house'
jees-al / jeese	'face, big and ugly'	yeesɔ	'face'
beel-al / beele	'large pool, pond'	weeⁿdu	'pond'
paal-al / paale	'large gourd'	faaⁿdu	'gourd'

The augmentative indicates that the size of the entity is bigger than is expected normally. The augmentative has also a negative connotation. The word **nedⁿdal** 'large person' has connotations such as a rough, rude, and ugly person. Although the augmentative formation is productive, the augmentative form of many nouns is rejected by consultants because of semantic incongruity.

The suffix forms which occur in the NGAL class given below are further discussed and exemplified in the following sections.

grade A: -al	objective word derivation
grade B: -wal	associative word derivation
grade C: -gal	circumstantial word derivation: denotes objects of use
grade D: -ⁿgal	subjective word derivation

The initial consonant of words in the NGAL class is taken from the plosive series. This initial consonant is the regular form of the initial consonant of stems which combine with a class suffix ending in [l].

7.2.9.1 THE GRADE A SUFFIX FORM -al

The suffix form **-al** marks the most neutral word derivation: the objective word derivation. This suffix is attached to simple nominal stems. The following examples are assumed to contain nominal stems, no related verb is known.

saah-al (also saahel)	‘north; the desert’ < Ar.
cobb-al / cobbē	‘ball’
coll-al	‘dust’
cuud-al	‘trot’
mesal-al / meselle	‘needle’
kuul-al / kuule	‘yard, ell’
niir-al / niire	‘beater, reed’
giy-al / giye	‘bone; thorn; fish bone’
lah-al / lehe	‘wooden bowl’
kew-al / kewe	‘spindle’
baaf-al / baafe	‘door, leaf (closing part)’
dud-al / dudē	‘Koran school’
galb-al / galbe	‘corral with walls’
cagg-al / cagge	‘back, backside’
luuw-al / luuwe	‘horn’
gerr-al / gerre	‘partridge (wild)’
cɔf-al / cɔfē	‘chicken’
biig-al / biige	‘chicken at the age of laying eggs’
cay-gal / caylē	‘goose’
dut-al / dutē	‘vulture’

The suffix **-al** combined with verb stems forms nouns describing cognate or unmarked objects or states related to that verb stem.

object

kawrit-al / kawrite	‘meeting’	hawrude	‘to meet’
nel-al / nele	‘message’	nelde	‘to send’
dent-al / dente	‘union’	rentude	‘to unite’
ʔardut-al / ʔardute	‘foreleg, forepaw’	ʔardude	‘to go in front’
nat-al / nate	‘photograph, picture’	natude	‘to photograph’
baald-al	‘cohabitation, living together’	waaldude	‘to spend the night together’
kett-al	‘harvest’	hettude	‘to harvest’
deg-al / dege	‘crossing river; feast of entering Burgu’	regude	‘to enter Burgu, descend into Inner-Delta’

<i>state</i>			
ʔanⁿd-al	‘knowledge’	ʔanⁿdude	‘to know’
cipp-al	‘exchange of milk’	sippude	‘to sell milk’
pellis-al / pellise	‘decision’	fellisidde	‘to decide’
gɔɔd-al	‘existence’	woodude	‘to exist’
piiⁿd-al	‘flowering season’	fiiⁿdude	‘to flower’
muj-al	‘patience’	mujude	‘to be patient’
fuuf-al	‘cold, cold period’	fuufude	‘to be cold’
tajɔr-al / tajɔre	‘certainty’	tajɔraade	‘to be certain’

7.2.9.2 THE GRADE B SUFFIX FORM -wal

The suffix form **-wal** which marks the associative word derivation occurs following stems that are full nouns (i.e. stems that are a combination of a noun stem and a class suffix) or loan-words (Tioulenta 1991:332, 351, 347; Newman & Ma Newman 1977:4).

karkalaawal / karkalaaje	‘bed made of wood’	káláka	[Bmb.]
taanewal / taaneeje	‘big anvil’	taane	[Son.]
batawal	‘tobacco box’	baata	[Son.]
ʔalluwal	‘small wooden slate’	álo	[Ar., Hausa]
ⁿdawwal, ⁿdawuwal	‘ostrich’	ⁿdawu ⁿgu	[G., A.]
/ ⁿdawuuje			
^mbaalu^mbaaluwal	‘amble’ (a pace of horses)	^mbaalu	‘sheep’
balawal / balaaje	‘shoulder’		
bam^mbalijewal	‘gallop’		

The form of the word **balawal** ‘shoulder’ suggests that its stem **bala-** might be a loan-word or another Fulfulde word. This conclusion cannot be verified until the source of this stem is identified properly.

The following nouns have two variant forms, one with the suffix **-wal** and one form where the [w] is reanalyzed as part of the stem.

kɔrɔwal	> *kɔrwal	> kɔwral / kɔwrɛ	‘bobbin’
garuwal	> *garwal	> gawral / garuuje	‘mud house’

Metathesis of the consonant sequence [rw] resulting in the sequence [wr] has occurred in both words. The sequence [rw] violates the sonority hierarchy because the first consonant in a sequence of two consonants should not be less sonorant than the second (see section 4.5.3). Metathesis of the sequence of the two consonants has repaired this ill-formed consonant sequence. Sometimes a second form exists where a vowel has been inserted between the two consonants to repair the [rw] sequence. The nouns **gawr-al** ‘mud house’ and **kɔwr-al** ‘bobbin’ contain the grade A suffix **-al**. After the occurrence of metathesis in the grade B words ***kɔrwal** and ***garwal**, the stem was reanalyzed as consonant final and the suffix as grade A. The plural **garuuje** is still grade B.

The augmentative form of a word takes the same suffix form as the normal size noun in the same nominal paradigm. Thus **gollal** ‘a big job’ in the augmentative NGAL class is derived in the same way as the word **golle** ‘work’ in the ‘DE class.

gollude	‘to work’ < Soninke
golle	‘work’ (‘DE class suffix, often concord ‘O class)
gollal	‘occupation; big job, lit: big work’ (NGAL class)

The semantic relation between the derived word and the verb stem from which it is derived remains identical. The grade marker does not change, only the class marker. This explains why augmentative, diminutive, and plural forms within one nominal paradigm always combine with the same suffix grade.

7.2.9.3 THE GRADE C SUFFIX FORM -gal

The suffix form **-gal** marks the circumstantial word derivation. Words derived with this suffix denote concepts associated with the NGAL class described by their mode, purpose or intention. Many of the nouns which contain the suffix form **-gal** show the circumstantial morphemes **-ir-** and **-or-** in the stem. The stems in these words are all verbal.

jɔɔɔrgal / jɔɔɔrde	‘chair, sitting stick in loom’	jɔɔɔ-	‘sit’
caɲirgal	‘loom, weaving place’	saɲ-	‘weave’
jaabirgal / jaabirde	‘treadle, pedal’	yaab-	‘tread, step’
taggɔrgal	‘cloth beam’	tagg-	‘roll out’
cɔcɔrgal / cɔcɔrde	‘tooth brush’	sɔc-	‘brush teeth’
natirgal / natirde	‘photo camera’	nat-	‘take a photo’
ʔom^mbirgal / ʔom^mbirdɛ	‘lid, cover’	ʔom^mb-	‘cover’
tintɔrgal / tintɔrde	‘mirror’	tint-	‘perceive’
dibirgal	‘grille’		
liwⁿdɔrgal	‘softly walk of a horse’		

The circumstantial extension which generally expresses an instrumental meaning in the above words always combines with the plosive initial form **-gal**. The meaning of the **-gal** suffix denotes mostly stick-like forms, wooden objects, large birds, augmentatives, etc. like all other suffixes of the NGAL class. It differs from the other forms of the NGAL class by its instrumental meaning. The suffix **-gal** occurs synchronically after noun stems which refer to objects of use even when they do not end in the [r] final morphemes **-ir-** or **-or-**.

The many possible forms of the circumstantial extension which occur in different words for pestle are given below. The words are derived from the verb **ʔunude** ‘to pound’. Sometimes the word shows two instrumental extensions, sometimes the instrumental extension is omitted, but the stem always combines with the grade C suffix form **-gal**.

ʔun-ir-gal	‘pestle, mortar’.	*ʔun-ir-gal
ʔunⁿ-du-gal	id.	*ʔun-ru-gal
ʔunⁿ-d-ir-gal	id.	*ʔun-r-ir-gal
ʔun-u-gal	id..	*ʔun-u-gal

The following words have an instrumental meaning even though the circumstantial extension is not present. In some of the words, the circumstantial extension is present but does not directly precede the class suffix **-gal**.

nuuy-gal	‘pillar in the middle of a house’
birdu-gal / birdudɛ	‘big calabash for milking’
cuwɔɔ-gal, cuwɔr-gal / cuwɔrdɛ	‘paint pit’
daldɔ-gal	‘shuttle in loom’
dammu-gal	‘doorway’
sir-gal, cir-gal / cirɛ	‘whip for milk’

The words in the above lists are derived from the verbs **nuuydɛ** ‘to support’, **birdudɛ** ‘to milk with’, **suuw-a** ‘put in water, paint’ (Zoubko 1980:457). The other words are probably also derived from verb stems.

The following two words which are formed from the same stem ***leh-** ‘wood, tree’ show that the different suffix forms must be distinguished semantically.

*leh- + -al	> lahal / lehe	‘wooden bowl’
*leh- + -gal	> leggall / ledɛ	‘branch, wooden stick’

The difference between the above words can only be explained if one assumes two morphologically different suffix forms.

The semantic motivation for the use of the suffix form **-gal** cannot be explained in the following words. Some of the related verbs are not known.

dew-gal / dewle	‘marriage’	rewde	‘to obey, follow’
ceer-gal / seerle	‘divorce, separation’	seerde	‘to divorce’
lettu-gal	‘east’	lettude	‘to squint’
pesɔ-gal / pesɔdɛ	‘vaccination trace, tattoo’	fesude	‘to tattoo, vaccinate’
cay-gal / cayle	‘goose’		
gɔr-gal	‘west’		
ter-gal / terɛ	‘limb/body’		
gertɔ-gal / gertɔdɛ	‘fowl; bird: tame, white, resembles a partridge’		

The etymologies of these words are not clear.

7.2.9.4 THE GRADE D SUFFIX FORM **-ⁿgal**

The suffix form **-ⁿgal** marks the subjective word derivation of deverbal nouns. It is identical in form to the subject concord of the **NGAL** class. Some of the participles which are formed with the grade D suffix have undergone semantic shifts which resulted in a more specialized meaning.

The class suffix **-ⁿgal** in some of these nouns acts clearly as the subject of the event described by the verb stem. The derived nouns describe the subject of the related verb.

“that which makes steps”:	kayⁿgal / kayde	‘foot, leg’
	hosude	‘to put foot down, to step’
	kasekase	‘noise made by walking cows’
“that which dresses”:	kaddu-ⁿgal / kaddule	‘garment, article of clothing’
	haddude	‘wrap around, dress, cover’
“that which is being found”:	tawaaⁿgal	‘tradition’
	taweede	‘to be found’
“that which is being kicked”	lataⁿgal	‘kick’
	lateede	‘to be kicked’
“that which counts”:	limⁿgal	‘count(ing), census’
	limude	‘count’
“that which proposes”:	jamⁿgal	‘proposal’
	jamude	‘propose (for marriage)’
“(bird) which travels early”:	dawⁿgal / dawle	‘raven’
	dawde	‘to travel early’
“(bird) which is clever”:	jaaw-ⁿgal / jaawle	‘guinea fowl’
	jaawn-	‘be cunning’ (Zoubko 1980:257)

Some augmentative nouns take the prenasalized class suffix on analogy with the prenasalized suffix of the noun which denotes the normal size.

kitaⁿgal	‘1913, year of great drought’	hitaaⁿde	‘year’
darⁿgal	‘resurrection’	darⁿde	‘standing position’
?iiwoⁿgal	‘large rainy storm’	?iiwoⁿde	‘rainstorm’
niiⁿgal / niijeele	‘big tooth’	niiⁿde	‘tooth’
geŋⁿgal / gelle, gelleele	‘large village’	genⁿdi	‘village’

The augmentative forms of basic grade D nouns are also derived from participles. The participle formation of the basic nouns are explained in the sections on the NDE and NDI classes. Some other nouns which take the suffix form **-ⁿgal** have no clear etymology.

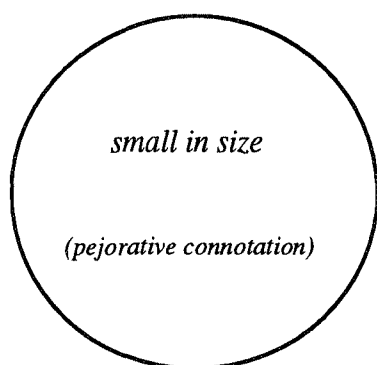
metteŋⁿgal, mettaŋⁿgal	‘flame’
labaⁿgal / labaale, labaade	‘bridle’
furtuⁿgal	‘veil of bride (transparent, indigo)’
diwⁿgal / diwle	‘load’
doŋⁿgal / dulle, doŋⁿge	‘load’
dēŋⁿgal / dēmlē	‘tongue, language’
dēmⁿgal / dēmde, dēlle, dēnde	id.

The morphological formation of the above words suggests that a related verb must have existed. The absence of such a verb is explained by semantic change or by loss of such a verb. Comparative research into related languages and dialects is expected to reveal related verbs. The words are classified as participles because of their morphological formation: they contain the suffix **-ⁿgal** which has the same form as the subject pronoun. The

hypothesis of the deverbal origin of grade D nouns is supported by the occurrence of verbal markers in the stem. The long vowel [aa] in the plural of **labaale** ‘bridles’ could very well be the completive passive marker, the morpheme **an** preceding the suffix in **mettanⁿgal** could be the historical form of the active incomplete in participles ***an**.

7.2.10 THE NGEL CLASS

The meaning of the NGEL class can unambiguously be described as “small”. The nouns in this class are mostly diminutive derivations of nouns which occur in another class that denotes its normal size. There are only a few inherently small objects which only occur in the NGEL class. It contains nouns denoting small persons or things. The semantic content of the NGEL class in Maasina is represented in the following figure.



In most Fulfulde dialects the NGEL class has connotations of both disparagement and affection (see also Arnott 1970a:81). The indication of a size which is smaller than the normal size of a person or thing resulted in a pejorative association and connotations of disparagement. It is only in the Maasina dialect that the meanings of the words in the diminutive class rarely imply an affectionate connotation. Potential terms for affectionate connotations are words denoting young animals and young children. But in Maasina even the word **bid^o** ‘child’ is preferred to **fiⁿgel** ‘small child, baby’. A baby is called **wusiwusi** ‘baby before naming’ (i.e. before the seventh day of its life when it receives a name, after which the term **bid^o** ‘child’ is used). Some speakers also prefer the word **nale** ‘calf’ to **nalel** ‘calf’.

The diminutive NGUM class does not occur in Maasina. Its meanings in a dialect of Sierra Leone (affectionate association: **paykuⁿ** ‘little friend’) and in the Gombe and Aadamaawa dialects (pejorative association: **fiⁿgum** ‘terrible child’) indicate that some semantic shifts concerning the connotations of the diminutive classes have taken place.

The nouns which take the NGEL class marker in the singular always form their plural by replacing the NGEL class suffix with the plural KOY class suffix. In general the type of word formation, i.e. the grade of the class suffix, is identical to the word formation of the unmarked or normal size form of the noun. The diminutive looks like a very productive class. There are however restrictions as to which nouns can have a corresponding diminutive form. A diminutive form was reluctantly given in some instances, consultants often commented that the form was actually too far-fetched. The formation of diminutive nouns is restricted by the semantics of the noun. Diminutive forms could not be provided by informants when a small version of the denoted item was not imaginable. A comment on

the following word by one consultant indicates why young animals generally do not form a diminutive noun:

- wiige** 'mature heifer'
biigel "I don't see how that can be. A heifer is already a small (young) animal. Well, perhaps if it is one that is very small in size." [comment given with sounds of disapproval, the consultant could not form a plural]

Not all consultants allow the same diminutive formations. The plural of the diminutive **biigel** 'small mature heifer' was refused by the consultant quoted above from Sabara (centre of Maasina). An informant from Toggere Kumba (also in the centre of Maasina) could form the plural diminutive **ᵐbiigoy** 'small mature heifers' without much trouble. Sometimes only the singular diminutive form was given. The plural diminutive forms and the augmentative forms of the following two nouns could not be given.

- | | | |
|--|------------------|------------------------------|
| yanaa-ⁿde / janaa-le | 'tomb/graveyard' | janaa-ⁿgel |
| wol-de / gɔlwol-ε | 'war' | golwol-el |

There are many words for which the diminutive simply does not seem to be possible. Diminutive forms were refused for nouns describing noises, some body parts, a number of abstract nouns, and some animals.

The examples of words in the NGEL class are always given paired with a plural form in the KOY class in this section. The comparison of these forms can sometimes indicate the phonological changes which occur in the nominal paradigm. A comparison of the "normal size" nouns with the diminutive form also shows that one stem combines with one suffix grade in one nominal paradigm. The hypothesis is that the stems are not identical when the paradigm shows apparent exceptions to this rule. Different stems result from combinations with different derivational markers. In some nominal paradigms, a reanalysis of the stem has taken place due to complicated stem final consonant changes (often resulting from a merger of the stem final consonant with a suffix initial consonant).

The following suffix forms occur in the NGEL class.

- | | | |
|----------|-------------------------|--------------------------------|
| grade A: | -el | objective word derivation |
| grade B: | -wel | associative word derivation |
| grade C: | -gel | circumstantial word derivation |
| grade D: | -ⁿgel | subjective word derivation |

There is also a suffix form **-lel** which seems to be a reanalysis of a stem that combines in the plural with the morpheme **-l-** expressing "different kinds of". This plural suffix form occurs in all types of word derivation.

The nouns in the NGEL class take the initial alternating consonant from the plosive series, like all classes with a suffix ending in [l]. The suffix of the NGEL class contains the [+ATR] vowel [e] which causes ATR vowel harmony on the preceding [-low] vowels.

7.2.10.1 THE GRADE A SUFFIX FORM -el

The suffix form -el marks the objective word formation. It can combine with verbal and nominal stems. The suffix form of the diminutive classes takes the same suffix grade as the basic (normal size) noun. This is shown in the following examples.

dewt-el / ⁿ dewt-oy	'small book'	dewt-ere / dewt-e
jaw-el / ⁿ jaw-oy	'small bracelet'	jaw-ɔ / jaw-e
gɔrb-el / gorb-oy	'small male donkey'	ⁿ gɔrb-a / gorb-i
kor-el / kor-oy	'small calabash spoon'	hɔr-de / kɔr-e

Some diminutive nouns that take the objective word derivation show stem final consonant alternation in the basic noun.

dew-el / ⁿ dew-oy	'small woman'	dɛbb-ɔ / rɛw-fɛ
ɲiib-el / ɲiib-oy	'small elephant'	ɲiiw-a / ɲiib-i
poof-el / poof-oy	'small base'	fɔɔm-re / pɔɔf-e
juɓ-el / juɓ-oy	'small piece of charcoal'	juɓm-ere / juɓ-e
bof-el / ^m bof-oy	'small mortar'	wow-ru / bof-i
jah-el / jah-oy	'small scorpion'	yaa-re / jah-e
koh-el / koh-oy	'small head'	hɔɔ-re / kɔh-e
gah-el / ⁿ gah-oy	'small bull'	ⁿ gaa-ri / gay
pul-el / pul-oy	'small Pullo'	pull-ɔ / ful-fɛ
taj-el / taj-oy	'small part'	tay-re / taj-e

Stem final consonant changes can be the result of a merger between the stem final consonant and the suffix initial glottal stop in the 'O class (dɛbbɔ 'woman'), 'DI class (ɲiibi 'elephants'), and 'DE class, or the result of changes in sonority in syllable final position. The possible stem final consonant changes are summarized below.

underlying	before vowel	merger with *ʔ	syllable final	reanalyzed dim. stem
*f	f	pp	w	pp
*w	w	bb/b	w	bb/b
*m	m	ɓ	m	ɓ
*ɓ	ɓ	ɓ	w	
*l	l	ll	l	
*h	h		V	

When consonant change occurs in the basic singular/plural noun formation, the diminutive can be formed from the surface form of the stem in either the singular or the plural. This can lead to one diminutive having two alternative stems.

underlying (singular) stem		reanalyzed plural stem	
*hɔf-		*hɔpp-	
how-ru / kopp-i	‘knee’	kopp-i	‘knees’
kof-el / kof-oy	‘small knee’	(kopp-el / kopp-oy)	‘small knee’
kɔf-al / kɔf-ɛɛɛ	‘large knee’	(kɔpp-al) / kɔpp-ɛɛɛ	‘large knee’
*nɔf-		*nɔpp-	
now-ru / nopp-i	‘ear’	nopp-i	‘ears’
nof-el / nof-oy	‘small ear’	nopp-el / nopp-oy	‘small ear’
nɔf-al / nɔf-ɛɛɛ	‘large ear’	nɔpp-al	‘large ear’
*fɔw-		*fɔbb-	
fow-ru / pobb-i	‘hyena’	pobb-i	‘hyenas’
powel / powoy	‘small hyena’	pobbel / pobboy	‘small hyena’
pɔw-al / pɔw-ɛɛɛ	‘large hyena’	pɔbb-al / pɔbb-ɛɛɛ	‘large hyena’
*saw-		*sabb-	
saw-ru / cabb-i	‘staff’	cabb-i	‘staffs’
caw-el / caw-oy	‘small staff’	cabb-el / cabb-oy	‘small staff’
caw-al / caw-ɛɛɛ	‘large staff’	(cabb-al) / cabb-ɛɛɛ	‘large staff’
*ləw-		*ləbb-	
lew-ru / lebb-i	‘moon, month’	lebb-i	‘months’
lew-el / lew-oy	‘small moon’	lebb-el / lebb-oy	‘small moon’
lew-al / lew-ɛɛɛ	‘large moon’	lebb-al / lebb-ɛɛɛ	‘large moon’

The stem final [f] becomes [w] syllable finally (see section 4.5.2). The geminate consonants [pp] and [bb] in the plural 'DI class are the result of a merger between the suffix initial glottal stop and the stem final [f] and [w] respectively. This merger results in a geminate consonant that is [-continuant] (see section 2.3.2). The geminates have been reanalyzed as part of the stem in the alternative diminutive form. The forms in parentheses are not frequent. The following diminutive forms show an irregular consonant final alternation compared to the basic nouns.

	‘house, room’	‘belly’
<i>basic</i>	suu-du / cuu-di	ree-du / dee-di
<i>diminutive</i>	cuur-el / cuur-oy	deer-el / ^hdeer-oy
<i>augmentative</i>	cuur-al / cuur-ɛɛɛ	

The hypothesis is that these basic nouns are derived using grade C suffixes. The merger of the stem final consonant with the suffix initial consonant resulted in a marginal CVVC syllable which led to the shortening of a geminate [dd]. The shortened [d] was reinterpreted as the stem final consonant in the diminutive forms which weakened in inter vocalic position. As a result the diminutive and augmentative forms are derived using a grade A suffix, whereas the normal size noun is derived using a grade C suffix.

*suud' + *du	> *suuddu	> suu-du
*suud' + *di	> *cuud'di	> cuu-di
*suud' + *yel	> *cuudel	> cuur-el
*suud' + *χoy	> *cuudoy	> cuur-oy etc.

There are a few nouns in the NGEL/KOY class pair without a related basic noun. These words denote items which are inherently small.

cebbet-el lebet-el	'highest branch in a tree'
nakabell-el / nakabell-oy	'earlobe'
nabar-el / nabaroy	'chisel'
gedd-el ʔalla	'kind of salamander'
kams-el / kams-oy, kamselaaji	'dress'

The word **kamsel** 'blouse, dress (garment sewn on a machine)' is derived from the French word "camisole" 'dress'. The last syllable in the word **kamsel** is reinterpreted as the class marker of the NGEL class. This interpretation has motivated the replacement of the suffix in the singular with the plural suffix **-oy** in the plural. An alternative plural with the suffix **-aaji**, typical for consonant final loan-words, is also attested in Maasina.

7.2.10.2 THE GRADE B SUFFIX FORM **-wel**

The meaning of the suffix **-wel** in the associative word formation is "something small having a semantic association with the meaning which is expressed in the stem". This suffix replaces grade B suffixes of the basic noun to form diminutives.

cagi-wel / cagi-woy	'little basket'	sagii-re / cagii-je
taane-wel / taane-woy	'little anvil'	taanee-re / taanee-je
kuuse-wel	'little stomach'	huusee-ru / kuusee-ji

Some nouns form their plural by adding a grade B suffix to the full singular noun. These nouns use the same strategy to derive diminutive (and augmentative) forms.

joŋ^hgo-wel / joŋ^hgo-woy	'little cow hump'	joŋ^hgɔ / joŋ^hgoo-ji
duko-wel / ^hduko-woy	'little dispute'	duk-ɔ / dukoo-ji
tuuba-wel / tuuba-woy	'little trousers'	tuuba / tuubaa-ji

All these examples show a vowel shortening rule in the penultimate syllable. This rule occurs in the environment where a long vowel in the penultimate syllable precedes a heavy syllable with a CVC shape (see section 4.2.2).

7.2.10.3 THE GRADE C SUFFIX FORM **-gel**

The suffix form **-gel** marks the circumstantial word derivation. The grade C suffix occurs always when the circumstantial extension **ir/ɔr** is present in the stem.

jaŋⁿgirgel	‘writing slate’
ciwtorgel	‘utensil made of sisal to separate rice from water’
ʔeeⁿdirgel	‘measuring rod (to make pattern of weaving fitting)’
dim^mborgel	‘swipe, sweep (of pit)’
binⁿdirgel	‘small feather to write with’

Nouns can also take a suffix of the circumstantial derivation without the presence of the extension *ir/ɔr*.

jaw-gel / jaw-koy, ⁿjaw-koy	‘little ram’	ⁿjaw-di-ri / jaw-dī
gaafo-gel / gaafo-koy, gaafo-loy	‘little jaw’	gaafo-gal / gaafoale
cay-gel / cay-loy	‘little goose’	cay-gal / cay-le

The grade C suffix adds a semantic aspect of “purpose, intention, mode, manner” to the noun derived from a verb stem. The semantics of these grade C words is explained in the sections on the suffix forms of the related basic nouns.

7.2.10.4 THE GRADE D SUFFIX FORM -ⁿgel

The suffix form -ⁿgel is identical in form to the subject pronoun of the NGEL class. This suffix marks the subjective word derivation. Basic nouns which are derived using the subjective word derivation also use the suffix forms of grade D in the diminutive and augmentative forms.

daŋ-ⁿgel / ⁿdaŋ-koy	‘little he-goat’	ⁿdam-ⁿdi / dam-dī
kaykay-ⁿgel	‘little gall bladder’	hayhay-ⁿde / kaykay-dē
fiŋ-ⁿgel / fik-koy	‘little child’	fiɪf-dɔ / fiɪf-ɸe
juŋ-ⁿgel / juu-koy	‘little hand, arm’	juŋ-ⁿgɔ / juu-dē
janaa-ⁿgel	‘little grave’	yanaa-ⁿde / janaa-le
ʔiiwo-ⁿgel	‘little rainstorm’	ʔiiwoⁿgɔ / ʔiiwooli
bilbilⁿgel / bilbilkoy	‘little bat’	wilwilⁿde / bilbilɸi
laba-ⁿgel / laba-koy	‘little bridle’	laba-ⁿgal / labaaale, labaaɸe

Reanalysis of the stem can occur when the word derivation has become opaque. There is no verb stem synchronically present that can explain the derivation of the word **dɛŋⁿgal/dɛlle** ‘tongue’. The different plural forms already indicate the unstable form of the stem. The diminutive plural form **dɛŋⁿg-oy** contains a reanalyzed form of the stem.

NGEL	KOY		NGAL	‘DE
dɛŋ-ⁿgel	dɛŋ-koy	‘uvula’	dɛmⁿgal	dɛm-dē, dɛn-dē ‘tongue’
dɛŋⁿg-oy			dɛŋⁿgal	dɛm-le, dɛl-le

A similar reanalysis has occurred in the nominal paradigm of ‘tooth’. The stem is historically ***niɪŋ-** ending in a nasal consonant, combining with the suffix allomorph **ⁿde** of grade A that occurs after nominal stems ending in an alveolar nasal.

*niij+*re > *niinⁿde > niiⁿde	‘tooth’
*niij+*²e > *niijje > niije	‘teeth’

The singular suffix form is reanalyzed as a grade D suffix. The singular stem is reanalyzed as ***nii-**. The singular augmentative form and the diminutive forms are based on this reanalyzed stem. The plural is formed by the addition of grade A suffix ***²e** to the stem ***niij-**. A merger between the stem final nasal [ŋ] and the suffix initial glottal stop resulted in the final consonant [j] of the stem ***niij-** on which both the plural and the augmentative plural forms are based.

nii-ⁿde / niij-e	‘tooth’
nii-ⁿgel / nii-koy	‘small tooth’
nii-ⁿgal / niij-^{ee}e	‘large tooth’

Most nouns derived using the subjective word derivation combine regularly with the suffix forms of grade D throughout their paradigm.

7.2.10.5 THE SUFFIX FORM -lel

The suffix **-lel** is found in nominal paradigms which combine, in the singular, with all four types of word derivational suffixes, i.e. with all four suffix grades.

Suffix **-lel** in nominal paradigms of all grades:

grade A	moorol / moolli	‘braid, plait’	moollel / mooloy moollel / moolloy
grade B	suka / sukaafe	‘child’	cukalel / cukaloy
grade C	fedde / pelle	‘age group’	pellel / pelloy
	hojjudu / kojjuuli	‘occipital hole’	kojjulel / kojjuloy
	naawki / naawle, naawkiiji	‘armpit’	naawlel / naawloy
grade D	wuddu / gulli	‘navel’	gullel / ⁿgullo
	weeⁿdu / beeli	‘pool, pond’	beelel / ^mbeeloy
	wiiⁿde / bille	‘corral’	biilel / ^mbiiloy
	funⁿdu / bulli	‘pit, well’	fullel / fuloy
	fooⁿdu / pooli	‘bird’	poollel / pooloy
	wabbuⁿgɔ / gabɓule	‘cheek’	gabɓulel / gabɓuloy
	fedeeⁿdu / pedfeeli	‘finger’	pedfelel / pedfeloy
	faaⁿdu / paali	‘gourd’	paalel / paaloy
	wutaaⁿdu / butaali	‘cob of millet’	butalel / butaloy, ^mbutaloy
	yeeⁿdu / jeeli	‘ant-eater’	jeelel / ⁿjeeloy

All diminutive forms which combine with the suffix form **-lel** use the suffix form **-loy** in the plural. The recurrence of the [l] in both singular and plural forms indicates that the consonant [l] could be analyzed as part of the stem. Another regularity is that the basic plural always uses the suffix forms **-le** or **-li** when the diminutive uses the suffix forms **-lel** and **-loy** (with the exception of the word **cukalel** ‘small child’ vs. **sukaafe** ‘children’). The

hypothesis is that reanalysis of the morpheme boundary between stem and suffix has taken place in the basic plural, where the morpheme [I] originally expressed “diversity” or “large quantities of”. The many variants of the stem within one paradigm indicate that reanalysis is taking place. The consonant [I] is sometimes only found in the plural, sometimes the consonant [I] occurs also in the singular diminutive stem.

singular	plural		sg. dim.	pl. dim.
dɔŋ-ⁿgal	dɔŋⁿg-ε, dɔl-^lε	‘load’	dɔŋ-ⁿgel	ⁿdol-loy, ⁿdɔŋⁿg-oy
wuugaa-ⁿdu	buugaa-li	‘pigeon’	buuga-lɛl buuga-wɛl	ⁿbuuga-loy
huu-ⁿde	kul-^lε	‘thing’	kul-lɛl kuŋ-ⁿgel	kul-loy kun-koy

The reanalysis of the morpheme boundary between stem and suffix is responsible for the different suffix forms. There is an implicational scale indicating the appearance of the consonant [I]: if **-lɛl** then **-loy** then **-lɛ** or **-li**. It also happens that only the plural forms contain the consonant [I]. The implication is the following: if **-loy** then **-lɛ** or **-li** (see section 7.4.4.1).

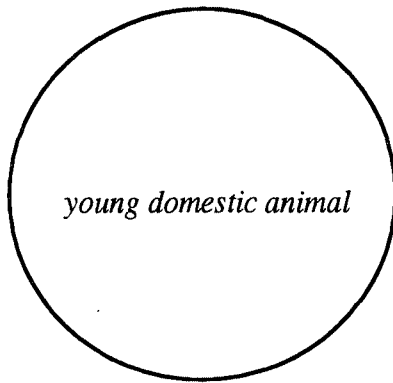
The suffix form **-lɛl** is considered to be an a-typical suffix form (Arnott 1970a:88). It is not a coincidence that the consonant [I] only appears before the suffixes of the class suffixes that are used in the more productive diminutive, augmentative, and plural word formations. The implicational scale indicates that the consonant [I] appears first in the plural form, from there it is reanalyzed as part of the stem on which the diminutive and augmentative word formation is based.

7.2.11 THE KOL CLASS

The KOL class in the Maasina dialect contains only one word: **dammulol/dammuli** ‘lamb, kid’. The form of the noun class suffix in this word is **-ol**. This suffix form is identical to the grade A suffix of the NGOL class. The fact that this word belongs to the KOL class can only be inferred from the concord which has the form **kol**. The concord **kol** occurs as a subject and object pronoun and it is the form of the suffix in participles, demonstratives, the genitive and other concord forms that agree with the KOL class. A remarkable thing about this class is the fact that it seems to contain only one word. But different words occur in different dialects in the KOL class. This class seems to contain only one word in each dialect.

Maasina:	dammul-ol / dammuli	‘lamb, kid’
Fuuta Jallon:	dammul-ol / dammuli	‘lamb, kid’
Sierra Leone:	ɲal-ol / ɲali	‘calf’
Nigeria:	ɲala-hol / ɲalbi	‘calf’
Aadamaawa:	ɲala-hol / ɲalbi	‘calf’
Liptaako:	pucc-ol	‘foal, filly’

The semantic content of this class seems to be young livestock. But there must be another restriction because not all names for young cattle are found in the KOL class. The following figure represents the semantic content of the KOL class.



Possibly the KOL class is an innovation of Fulfulde which is derived from the NGOL class, separating animate and inanimate nouns in the proto-class that contained both words of the NGOL class and the KOL class. A possible semantic link between calves, lambs, and kids and the meaning “rope” of the NGOL class is the fact that these young animals are tied down at the neck with a **daaⁿgol** ‘a rope with which young animals are tied down to prevent them from drinking milk from their mother’.

The rest of the words for young cattle are found in the classes where the word for the species of the adult animal is found. Names of young animals are the diminutive forms in the NGEL class of the adult animal when no special word for the young one exists. The following words occur in Maasina.

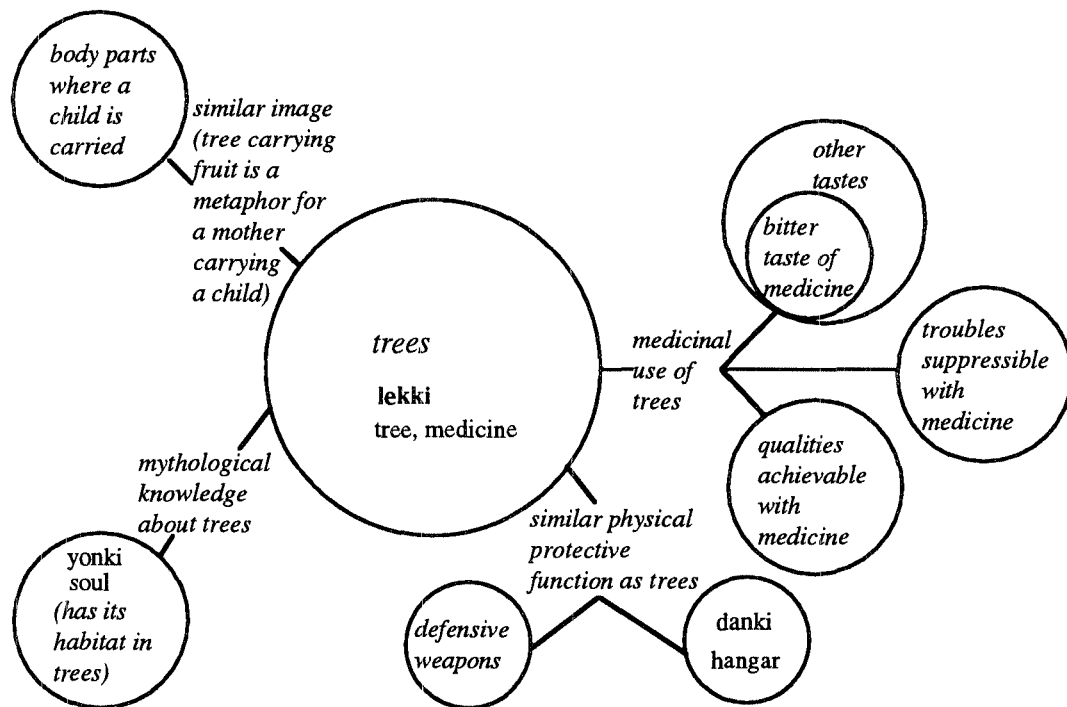
young animal		adult animal	
nal-e ⁿ ge	‘calf’	nagg-e ⁿ ge	‘cow’
wadd-e ⁿ ge	‘yearling’	nagg-e ⁿ ge	‘cow’
^mbadd-iri ⁿ di	‘male yearling’	ⁿgaa-ri ⁿ di	‘bull’
ḡot-a ba	‘kid’	^mbee-wa ba	‘goat’
bɔsaa-ru ⁿ du	‘puppy’	rawaa-ⁿdu ⁿ du	‘dog’
^mboort-u ^ʔ ɔ	‘lamb, 2 years’	^mbaal-u ^ʔ ɔ	‘sheep’
mol-u ^ʔ ɔ	‘foal, filly’	pucc-u ^ʔ ɔ	‘horse’
mol-a ba	‘donkey’s foal’	ⁿdakii-wa ba	‘donkey’
jaw-gel ⁿ gel	‘small ram’	ⁿjawd-iri ⁿ di	‘ram’

The above examples show that stems can enter a certain class on the analogy of a word in that class. The stem **mol-** with a suffix of the NGU class refers to a young horse, the same stem with a suffix of the BA class denotes a young donkey. The use of the concord of the ‘O class has replaced the taboo concord of the NGU class, but the noun suffix is still of the NGU class (cf. section 7.2.7). This does not imply that the meaning of the NGU suffix is horse, and that the BA suffix would mean donkey. The meaning of the stem is “foal” and the analogous association of the words in the NGU or BA classes specifies whether the foal

is from a horse or a donkey, because the nouns **puccu** 'horse' and **"dakiwa** 'donkey' belong to those two different classes.

7.2.12 THE KI CLASS

The following figure shows the network of semantic associations which are proposed to explain the grouping of the nouns in the KI class.



<i>trees</i>		<i>body parts carrying children</i>		<i>qualities achievable with medicine</i>	
lekki	tree, medicine	keeci	lower back	ɲari	beauty
ʔoroowi	baobab	naawki	armpit	mojjuki	goodness
"duɓɓi	doum palm	laaci	tail		
<i>protection against wind, sun</i>		<i>medicine: its taste</i>			
"daŋki	hangar	kaadeefi	bitterness		
<i>protective weapons</i>		<i>troubles suppressible with medicine</i>			
laɓi	knife	"guleefi	heat		
silaamuwi	sword	"boŋki	badness		

The KI class contains nouns denoting names of trees. The word **lekki** is polysemous, it means both 'tree' and 'medicine'. The KI class contains words which denote concepts of protection, because of the protective use of medicines which are traditionally made from the bark and other parts of trees. A good medicine is supposed to be bitter, so a word like **kaadeefi** 'bitterness' can be semantically associated with the KI class via the medicinal use of trees. Possibly the grouping of the abstract nouns in the KI class is semantically motivated by the fact that they denote qualities (**ɲari** 'beauty') which one tries to achieve or troubles (**"guleefi** 'heat of the body, sweat') which one tries to get rid of by taking

medicine. The word **ᵀdaŋki** ‘hangar, wind-break’ is in the KI class. Perhaps it is the association of the functions of both a tree and a hangar with shade and the protection from wind and sun that places the word **ᵀdaŋki** ‘hangar’ in the tree class. Weapons can also be seen as defensive, their protective connotation motivates the occurrence of the words for knife, razor, sword, and other cutting weapons in the KI class. The few body parts that are found in this class are: **keeci** ‘bottom’, **laaci** ‘tail’, and **naawki** ‘armpit’. The protective connotation and a metaphorical association between “tree” and “mother” motivates the association of these body parts in the KI class. A mother carries her child on her back or under the arm, like a tree carries fruit on its branches or stem. The word **keeci** denotes the lower back where the child sits when it is carried on the back. Baaba Maal (Maal & Seck 1989) remembers this place when he sings about his childhood: **keeci ki wam^mbaami** ‘the back that I was carried on’. The word **naawki** ‘armpit’ literally means ‘used for carrying under the arm’. The sentence **ᵀiddɔ woni ʔe naawki** ‘the child is at the armpit’ describes a child on the side of the mother with the head peeping through her arm (to reach for a breast). The tail **laaci** is included together with **keeci** ‘lower back, bottom’ in the KI class because they are situated in the same place. Perhaps the word **yoŋki** ‘soul’ is in the KI class because trees (especially the baobab) are said to be the dwelling place of the souls.

The initial consonant of nouns in the KI class is chosen from the prenasalized consonant series in the dialect of Maasina. Some nouns do not undergo the initial consonant alternation but occur with an initial consonant from the plosive or continuant series. Maasinankoore differs from other dialects with respect to the initial consonant series of this class. Nouns in the KI class take an initial consonant from the plosive series in other dialects. The initial consonant of the KI class is also prenasalized in Liptaako (Bidaud & Prost 1982:38-9). In Gombe, nouns in the KI class have an initial consonant from the plosive series, but infinitives which take the suffix of the KI class do not undergo consonant alternation. The KI class takes the initial consonant from the plosive series in dialects to the east of Maasina, such as Aadamaawa (Klingenheben 1963) and Jamaare (Noye 1974), and dialects to the west of Maasina, such as Gambian Firdu Fula (Gamble & Baldeh 1981). The initial prenasalized consonant in the KI class in Maasina and Liptaako is thought to be an innovation because its occurrence is restricted to these adjacent dialect groups. The innovation emphasizes the difference between a stem in the singular KI and a stem in its plural 'DE class. The suffix forms which occur in the KI class are given in the following table.

grade A:	-i	objective word derivation
grade B:	-wi	associative word derivation
grade C:	-ki	circumstantial word derivation
grade D:	-ki	subjective word derivation
a-typical:	-eefi	abstract nouns

The distribution and meanings of these suffixes are discussed in the following sections.

7.2.12.1 THE GRADE A SUFFIX FORM -i

The suffix form **-i** marks the objective word derivation. It is typically found after nominal stems.

keec-i / keeciiji	'hip'
laac-i / lace, lacee	'tail'
tann-i / tanne	'desert date (<i>Balanites aegyptiaca</i>)'
ⁿgawd-i / gawde	'tree good for charcoal (<i>Acacia nilotica</i>)'
ⁿduɓɓ-i / duɓɓe	'lontarpalm (<i>Borassus flabelliformis aethiopum</i>)'
koh-i / kɔhe	'best tree for charcoal (<i>Proposopis oblonga</i>)'

There are a few nouns in this class which have a stem which also occur as stems in verbs.

laɓ-i / laɓe	'knife'	laɓude	'to shave'
ɲar-i	'beauty'	ɲardude	'to be beautiful'

The verb **ɲardude** is derived from the noun stem rather than vice versa. Possibly the verb **laɓude** 'to shave' is derived from the noun **laɓi** 'knife'. The word **laɓi** 'knife' poses a problem if it is derived from the verb, since it is not the cognate object but the instrument with which one can shave. Instruments usually take the circumstantial word derivation, e.g. the word **laɓorki** 'razor'. The cognate object **lamru** 'shave; shaving of baby at name giving day' appears in the NDU class.

7.2.12.2 THE GRADE B SUFFIX FORM -wi

The suffix form **-wi** occurs in secondary nouns, i.e. nouns derived from stems which in their own right are full nouns. In Maasina this suffix form cannot be explained by inter vocalic weakening. In that case the expected form would be **-hi** as it is in other dialects (Gombe, Adamaawa).

dibinohi 'date palm'

The suffix **-hi** occurs in the KI class only in this one word of the data gathered in Maasina. All other words based on a full noun as the stem take the allomorph **-wi**. The suffix **-wi** is a composite form which is based on the grade marker ***ɥ** and the regular class marker ***-hi**. It has the meaning "something of the KI class that is like/associated with (the meaning of the noun which forms the stem)".

^ɔoroowi	'baobab'	^ɔɔɔ kɔ	'(sauce of) baobab leaves'
ⁿgoroowi	'kola-nut tree'	gɔɔ ⁿgɔ	'kola-nut' (generic term)
maaⁿgoroowi /	'mango tree'	maaⁿgɔɔ ⁿgɔ	'mango fruit'
maaⁿgɔɔɔje			
silaamuwi /	'sword, sabre'	silaamu [Ar.]	'Islam'
silaamuje			
kupukupuuwi	'machete'	kupkup [Fr.]	'machete' (Tioulenta 1991:338)
taamuwi	'kapok tree'	taamu ^ɔ	'silk-cotton, kapok'

The nouns which function as stems of this type of word derivation with the suffix **-wi** generally do not undergo initial consonant alternation.

ⁿgelleewi / gelleeje ‘doum palm (*Hyphaena thebaica*)’ **gelle** ‘villages’

The example above shows that some nouns with the denominal formation using the **-wi** suffix do undergo initial consonant alternation. The alternative form **ⁿgelleewi** without initial consonant alternation is also encountered in Maasina. The semantic relation between “villages” and the “doum palm” could be that this multi-purpose tree is grown in and near villages. The leaves are used for matting, the branches and stem are used as construction wood. The semantic link could also lie in the fact that this tree is used to build villages.

7.2.12.3 THE GRADE C SUFFIX FORM **-ki**

The suffix form **-ki** marks both the circumstantial and subjective word derivation. These two suffixes cannot be distinguished because the prenasalization which marks grade D suffixes is always lost when the suffix initial consonant is voiceless. The circumstantial word derivation can be recognized by the appearance of the circumstantial extension **ir/r** in the stem.

laborki / labɔrdɛ	‘razor’	labude	‘to shave’
pem^mborki / pem^mbɔrdɛ	‘razor’	femb-oo	‘to shave’ (Zoubko 1980:169)

It is only the semantic content of the word and its comparison with other words in the same nominal paradigm that can give an indication of the actual word derivation when the circumstantial grade marker **[r]** and the subjective grade marker **[n]** do not appear in the surface form.

naawki / naawle	‘armpit’	naafaade	‘carry under the arm’
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The word **naawki** ‘armpit’ could be paraphrased as a circumstantial word derivation: “tree-associated body part (carrying children) with the purpose of, used for carrying under the arm”. The etymology of a subjective word formation would be: “tree-associated body part (carrying children) which carries under the arm”. The circumstantial etymology is more plausible. It is the person to whom this body part belongs that would be the subject of the verb stem **naafaade** ‘to carry under the arm’. The armpit **naawki** is a circumstance of the event described by this verb: the place or instrument prototypically formed with the circumstantial word derivation.

The nominal paradigms of the following two words **lekki** ‘tree’ and **fokki** ‘baobab’ are complex. Related nouns in these nominal paradigms combine with different suffix grades.

Nominals derived from the same stem ***leh-** or ***leʔ-**:

lekki	‘tree, medicine’
leggal	‘branch, stick’
leɗɗɛ	‘trees, medicines, branches, wood’
lahal	‘wooden bowl’
lehal	‘wooden bowl’
leʔal	‘wooden bowl’ [Gambian Firdu] (Gamble & Baldeh 1981)
laʔal	‘wooden bowl’ [Gambian Firdu] (Gamble & Baldeh 1981)

The word **lekki** is based on a nominal stem which should combine with a grade A suffix. Probably the stem final consonant [ʔ] merged with the suffix initial underlying continuant consonant *χi to form a geminate obstruent [kk], after which the suffix form **-ki** was reanalyzed as a suffix of the circumstantial word derivation because a tree is considered to be useful. Perhaps the usefulness of **lekki** ‘tree, medicine’ motivates the circumstantial word derivation, where the grade marker indicates ‘purpose, use, intention, manner’. The word **lahal** ‘wooden bowl’ which is derived from the same stem *le² is formed with in the objective word derivation. The words **leggal** ‘branch’ and the plural **ledde** ‘trees, branches’ followed the reanalysis, combining with grade C suffixes. A similar reanalysis can be found in the nominal paradigms related to the stem in the word **bokki** ‘baobab tree’. (The word ²**oroowi** ‘baobab tree’ is better known in Maasina).

Nominals derived from the same stem *bɔh- or *bɔ²-:

bokki	‘baobab, monkey bread tree’
bɔkkɔ	‘baobab foliage; sauce of baobab foliage’
bɔhere	‘fruit of the baobab’
bɔhe	‘baobabs, fruits of the baobab’
boggol	‘rope (originally of fibres of the baobab bark)’
boggi	‘ropes’
boggere	‘small piece of rope’

The stem of the word **bokki** is nominal and is therefore expected to combine with a grade A suffix which actually does occur in the plural form **bɔh-e** ‘baobabs’. The hypothesis is that a phonological reanalysis of *bɔ²+χi > **bokki** has taken place motivated by the usefulness of the baobab as source of food and ropes, usefulness being expressed by the circumstantial derivation. The circumstantial suffix form **-gol** is also used in the formation of the word **boggol** ‘rope’ which is derived from the same stem. The geminate [gg] is reanalyzed as being part of the stem in the derived plural form **boggi** and in the word **boggere** ‘small piece of rope’. The foliage of the Baobab **bɔkkɔ** which is very much sought after to use in sauces combines with the circumstantial suffix form. The plural form **bɔhe** which is also the plural of **bɔhere** indicates that this nominal stem does combine with a suffix of grade A. The use of the grade C form in these words is thought to be an innovation, indicating the innovative character of the grade system for Fulfulde word formation.

The meanings of the following nouns indicate that these nouns are derived using the circumstantial suffix form **-ki**, rather than the subjective word derivation marked by a suffix of the same shape.

paŋki, paakki, pakki	‘narrowness’	faad-ude	‘to be narrow’
kemki, kekki	‘greed’	heɓ-ude	‘to obtain, to get’
ˀjuunki, ˀjuukki, ˀjukki	‘length’	juut-ude	‘to be long’
ˀboŋki	‘badness’	bon-ude	‘to be bad’
mojjuki	‘goodness’	mojj-ude	‘to be good’

These words are analyzed as nouns formed with the circumstantial word formation expressing “manner, mode”. They describe qualities. A quality is a mode of being. Homonymous forms in the subjective word formation are the adjectives of these qualities (see section 7.2.12.4). These quality nouns only occur in the KI class whereas the related adjectives can occur with suffixes of all classes.

7.2.12.4 THE GRADE D SUFFIX FORM -ki

The grade D suffix is used to form participles. Deverbal adjectives are formed like participles (see section 8.1.5). The adjectives are listed here to show their homonymy with the quality nouns in grade C.

ⁿdan̄ki paakki	‘narrow hangar’	faad-ude	‘to be narrow’
yoŋki kemki	‘greedy soul’	heḡ-ude	‘to obtain, to get’
ⁿduḡḡi ⁿjuukki	‘long doum palm’	juut-ude	‘to be long’
yoŋki ^mboŋki	‘bad soul’	bon-ude	‘to be bad’
yoŋki mojjuki	‘good soul’	mojj-ude	‘to be good’

The identical form **-ki** marking both the circumstantial word derivation and the subjective word formation and the absence of clearly related verb stems makes it difficult to decide on the derivation of the following words.

cayki / cayḡe	‘tree with thorns: <i>Acacia albida</i> Delile’
yoŋki / yoŋkiiji	‘soul’
ⁿdan̄ki / dandḡe	‘hangar; wind-break’

7.2.12.5 THE SUFFIX FORM -eefi

Deverbative nouns denoting qualities containing a suffix **-eefi** also occur in the KI class. The morpheme **-eē-** (also occurring in combination with other class markers in participles) is also seen in combination with the form **ki** in the word **^mbeleeki ki** ‘sweetness’ in Maasina. The suffix **-eeki** occurs in other dialects as well. Zoubko (1980) gives the form **ⁿguleeki** ‘heat, sweat’, but she does not indicate the dialect in which this form occurs. The suffix form **-eefi** appears to be typical for the Maasina dialect.

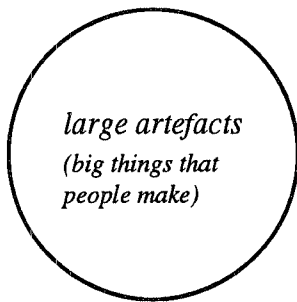
kaad-eefi	‘bitterness’	haad-ude	‘to be bitter’
hecc-eefi	‘dampness’	hecc-ude	‘to be fresh, wet’
kecc-eefi	‘humidity, freshness, newness’	hecc-ude	‘to be fresh, wet’
tedd-eefi	‘heaviness, weight’	tedd-ude	‘to be heavy’
^mbel-eefi	‘sweetness’	wel-de	‘to be sweet, nice’
ⁿgul-eefi	‘heat (of the body, sweat)’	wul-de	‘to be hot’
^mbul-eefi	‘heat’	wul-de	‘to be hot’

The consonant [f] in this morpheme cannot be explained in terms of its alternation with the consonant [k], unless very particular phonological rules are established for this morpheme only. The alternation between [h] and [k] is regular. Inter vocalic weakening of [k] in a morpheme ***-eeki** may have resulted in [h] in a morpheme ***-eehi**. The consonant [f] has

become [h] in some opaque historical word derivations. The change from [k] to [h] to [f] or vice versa is not clear. The morpheme *-eefi* forming abstract nouns has to be considered as either a frozen morpheme or a morpheme *-eef-* combining regularly with the class suffix *-i* of the objective word derivation (grade A).

7.2.13 THE KA CLASS

There are not many nouns that take the concord of the KA class. Many nouns with a suffix of the KA class often use the concord of the 'O class. Words that are consistently referred to with the concord of the KA class are **kaasa** 'blanket' and **laana** 'boat'. These words are thought to be grouped in the KA class because their meanings can be said to revolve around the concept "large artefacts". Words describing different types of blankets can be grouped around the key word **kaasa** 'blanket', in the same way as a number of terms denoting types of garment. The following figure represents the content of words which always use the KA class concord.



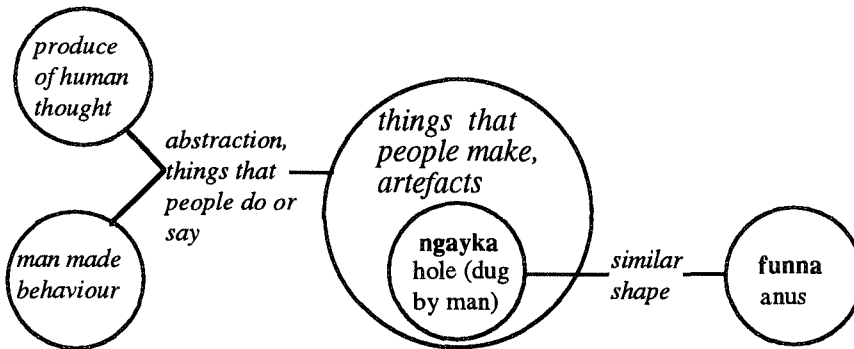
large artefacts

kaasa	blanket
laana	boat
saaya	gown

There are words with a suffix of the KA class which also sometimes use a concord of the KA class. They can be described as "things that people make, do, or say". Many words denoting small or large artefacts (things that people make) have a suffix of the KA class. Words and stories are grouped in the KA class because they are the produce of human thought, they are things that people say, i.e. produce verbally. The abstract nouns in the KA class which denote kinds of human behaviour are things that people do. These abstract nouns are derived from verbs and often they carry the meaning "manifestation of (the event expressed by that verb)". The word **funna** 'anus' is associated with the word **gayka** 'hole' which is a common euphemism for the anus.

All words in the KA class denote inanimate concepts. Many of the artefacts in the KA class are large. This feature "large" is also present in the NGA/BA class, denoting large animals. Historically these two classes may well have had a common origin. A nasal prefix denoting animacy added to the KA class marker has resulted in the NGA/BA class marker. The content of the original class has been split into the inanimate KA class and the animate NGA/BA class.

The different semantic subgroupings in the KA class are linked in a semantic network such as the one proposed in the following figure.

*things that people make*

^m bayla	forge
ⁿ gayka	hole
sira	tobacco
kafa	black paint for leather
fina	black paint for eyes
sɔyfa	sound

things that people say

filla	long story
janta	history
taala	tale
haala	word
ⁿ gɔɔ ⁿ ga	truth
ⁿ gɔɔfa	taboo

big things that people make

laana	boat
ⁿ diwɔɔwa	aeroplane
kaasa	blanket, woollen dress
maliwa	blanket, six strips
tudareewa	blanket, black with white stripes
cɔjaaka	blanket, four colours
ⁿ daakaaka	blanket, four colour pattern
tuuba	trousers
sarra, sarla	long trousers
saaya	gown, shirt

things that people do

darja	popularity
hersa	shame, reservedness
kɔrsa	affection, love
nafa	usefulness
ⁿ guyka	theft
^m bɔɔwka	habit, custom
kɔɔrka	fast
ɔɔŋka	thirst

similar shape as hole

funna	anus
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As for the grouping of words in the KA class according to their type of initial consonant, there are two kinds of nouns. The first kind, which shows alternation, takes a prenasalized initial consonant. Other nouns exhibit no alternation and may thus start with any consonant. The absence of initial consonant alternation can often be ascribed to the loan origin of that word. The suffixes of the KA class are given in the following table. Their meanings and distribution are discussed in the following sections.

grade A:	-a	objective word derivation
grade B:	-wa	associative word derivation
grade C:	-ka	circumstantial word derivation: "manifestation of"
grade D:	-ka	subjective word derivation

7.2.13.1 THE GRADE A SUFFIX FORM **-a**

The suffix form **-a** marks the objective word derivation. The definite marker is listed because it indicates which class concord can be used to refer to that noun. The definite

marker from either the KA class or the 'O class follows the noun. The following nouns denote objects and things.

kaas-a ka / kaasaaji	'the blanket, woollen blanket'
laan-a ka / laanaaji	'the boat'
kaf-a ka	'the black (to blacken leather)'
fin-a ka	'the black (to blacken eyes)'
fuun-a, funn-a ka / fuunaaji	'the anus'
saay-a ka / saayaaji	'the shirt, gown'
sarr-a ka / sarraaji	'the trousers'
ḡḡḡ-a ḡḡ, ka	'the truth'

Nouns which are derived with a grade A suffix from verb stems denote either cognate unmarked objects of the related verb or the cognate state. Some nouns do occur with a prenasalized initial consonant, others do not.

haal-a ḡḡ, ka	'word, speech'	haal-de	'to speak'
darj-a ḡḡ, ka	'popularity'	darj-ude	'to be(come) popular'
soyf-a ḡḡ, ka	'sound'	soyf-ude	'to make noise'
fill-a ḡḡ, ka	'story'	fill-aade	'to recite, to narrate'
jant-a ḡḡ, ka	'history'	jant-aade	'to tell'
hers-a ḡḡ, ka	'shame'	hers-ude	'to be(come) shameful'
kōrs-a ḡḡ, ka	'affection'	hōrs-ude	'to be(come) adorable'
ḡḡḡ-a ḡḡ, ka	'taboo'	wōḡ-ē-ḡḡ	'to be(come) banned'

A number of words in the list above are derived from verbs which are loan-words, but the derivation itself is quite regular: attaching the meaning of the KA class "man-made produce, artefacts, or human behaviour" to the cognate object derived from the related verb root by adding the regular suffix form **-a** of the KA class.

The following verbs never appear without an extension. Possibly the nouns are basic and the verbs are derived.

ḡḡḡ-a ka	'forge'	wayl-it-idde	'to transform'
naf-a ka	'usefulness'	naw-t-ḡḡ-aade	'to use'
ḡḡḡ-a ḡḡ	'truth'	goon-ḡḡ-ude	'to be(come) real'

The derivation of the word **ḡḡḡ-a** 'forge' is semantically irregular. It is not an artefact as such, but rather the place where artefacts are made. A forge is the place where the blacksmith, who transforms metals, works. The verb **goon-ḡḡ-ude** 'to be(come) real' is derived from the nominal stem in the word **ḡḡḡ-a ḡḡ** 'the truth' combined with the denominal extension **-ḡḡ**.

Tioulenta (1991:203) suggests that the occurrence of the two concords **ḡḡ** and **ka** indicates an intermediate stage of fluctuation of the loan-words between the phase without a morphological class marker in the 'O class and the phase where the class marker is determined. He says that the word is classified in the KA class because the final vowel [a]

of the loan-word is interpreted as the class suffix of the KA class. My hypothesis is that morphological analogy is blocked when the meaning of the loan-word can not be linked to the meanings of the KA class.

sira, siraa ka	‘the tobacco’ < Mande
tuuba ka / tuubaaji	‘the trousers’ < Ar.

Indeed, a number of (mostly Arabic) loan-words have been integrated into this class. However, the KA class does contain more than only loan-words. Some of the words in the KA class are proper Fulfulde nouns and derivations from verbs, even if some of the verbs might be loan-words.

7.2.13.2 THE GRADE B SUFFIX FORM -wa

The suffix form **-wa** marking the associative word derivation in the KA class has the same distribution as the suffix form **-wa** of the BA/NGA class. It occurs after stems which are full nouns. These stems might be Fulfulde nouns or loan-words.

malli-wa	‘cover of six woven strips’
tudareε-wa	‘black background with a few white stripes’

The stem **malli** could refer to the ancient Mali empire: this could have been a common type of blanket during that period? It is not clear where the stem in **tudareεwa** comes from.

ᵐdiw-ɔɔ-wa	‘aeroplane’ (flying boat)	lit.: ‘flying (one)’
ᶠal-εε-wa	‘black blanket with red stripes’	lit.: ‘black (one)’

The two words above are adjectival forms whose meanings have become more specific. The same forms can also be found as modifiers. The formation of the agentive form **ᵐdiwɔɔwa** ‘flying’ and the adjective **ᶠaleεwa** ‘black’ are further discussed in sections 8.1.3 and 8.1.4.

7.2.13.3 THE GRADE C SUFFIX FORM -ka

The suffix form **-ka** marks both the circumstantial and the subjective word derivation. Their forms cannot be distinguished. The circumstantial derivation adds the meaning “mode, manner” to the semantic associations of the marker of the KA class. In the following example the circumstantial extension **-ir-** in the stem indicates clearly that the noun has been derived using the circumstantial word derivation.

woodude	‘to be beautiful, to be good, to have good morals’
ᵐboodirka	‘goodness (of morals and beauty)’

The circumstantial extension does not occur at the surface of a number of other nouns denoting manifestations of human behaviour linked to the meaning of the related verbs. Only the similarity in meaning (“manifestation of”) and the suffix form **-ka** indicates that these words combine with grade C suffixes.

ᵐᵇᵛᵛ-ka ka	‘habit’	wᵛᵛ-ᵈᵉ	‘to be used to’
ⁿᵍay-ka ka	‘hole’	ʔas-ᵈᵉ	‘to dig’
kᵛᵛ-ka ka	‘fast’	hᵛᵛ-ᵈᵉ	‘to fast’

The following two examples show verb stems that are derived from the related noun stem which are expanded using the denominal extension. This indicates that the verbs are derived from the nominal stems, rather than vice versa.

ⁿᵍuy-ka ka	‘theft’	wuj-j-ᵈᵉ	‘to steal’
dʔᵛ-ka ka	‘thirst’	dʔom-dʔ-ᵈᵉ	‘to be(come) thirsty’

These deverbal abstract nouns with the suffix **-ka** always use the concord of the KA class as their agreement marker, they never use the concord of the 'O class. The words derived using the circumstantial word derivation also obey the rule that words in the KA class should have a consonant from the prenasalized series.

The etymology of the word **ⁿᵍay-ka** ‘hole’ is not clear. It is also not clear whether its suffix form **-ka** has to be analyzed as grade C or as grade D.

ʔasᵈᵉ	‘to dig’
gaytaᵈᵉ	‘to dig a bit deeper (to find water)’
ⁿᵍay-ka ka / gayᵈᵉ	‘non-natural hole, dug by someone’
ⁿᵍaykaare / ⁿᵍaykaaje	‘non-natural hole, dug by someone’
gasol / gasi	‘furrow, gully, trench’
ʔasirgal	‘stick to dig with’

The word **ⁿᵍay-ka** ‘hole’ is derived from the verb **ʔasᵈᵉ** which still alternates with a velar voiced consonant [ʔ : **g** : **ᵍ**] in the Fuuta Tooro dialect. This word denotes a hole that is dug by people and can therefore be associated with the KA class feature of “human artefacts”. The suffix cannot mark the subjective word derivation because the hole does not dig itself, the word **ⁿᵍayka** ‘hole’ is not the subject of the verb **ʔasᵈᵉ** ‘to dig’. The objective word derivation would be a better candidate since a hole is the unmarked object or result of digging. The objective word derivation is indeed found in the word **gasol/gasi** ‘furrow, gully, trench’. Possibly the word **ⁿᵍayka** ‘hole’ also describes ‘the digging’, in agreement with the function of grade C suffixes to form verbal nouns, such as the gerund (**-gol**) and the infinitive (**-ᵈᵉ**).

7.2.13.4 THE GRADE D SUFFIX FORM **-ka**

A suffix form **-ka** also occurs on a number of words which can be analyzed as participles describing the subject of the related verb stem. The morpheme **-aa-** indicates the passive voice and the completive aspect.

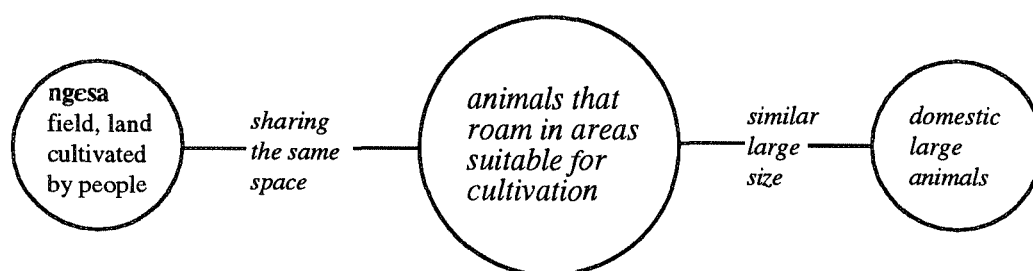
cɔj-aa-ka ka	‘the four coloured (blanket)’
ⁿdaak-aa-ka ka	‘the four coloured, with certain pattern (blanket)’

The hypothesis concerning the suffix grades of these two words is based on the morphological shape of the nouns and their meaning. Their stems combine with the passive voice marker *-aa-* which also occurs in participles. The paraphrase of these words as “that which” whereby the subject pronoun refers to a blanket is plausible. The related verbs and the precise etymology of these words are not known.

7.2.14 THE BA/NGA CLASS

The nouns in the BA/NGA class are marked by the use of the concord *ba* in the centre of Maasina. The concord *nga* is used in the Fulfulde dialects of Gimbballa, Kunaari, and Haayre spoken on the periphery of Maasina. The geographical distribution of the concords *ba* and *nga* is the same for the subject concord in participles. The noun class suffixes in the periphery do not differ from the suffixes in the centre of Maasina. The concord *ba* is not prenasalized like the concord markers of other classes with an initial voiced plosive consonant.

The nouns in the BA/NGA class describe big animals, except for the word *ngesa* ‘field, cultivated land’. The BA/NGA class contains both wild (elephant) and domesticated animals (sheep), harmless (antelope) and ferocious animals (crocodile). The hypothesis* for a semantic link between the large animals and the field in the BA/NGA class is the fact that these animals used to walk around in areas that are suitable for cultivation. Antelopes, giraffes, elephants, and buffaloes roam through the savannah where it is easier to clear the land for cultivation because there are fewer trees. The crocodile roams through the inundated river sides which is suitable for the cultivation of rice. In general, these animals are large. Other large domestic animals are linked to this class on the analogy of the large size of the animals that roam the savannah. The associations proposed for the BA/NGA class result in the following semantic network.



cultivated field

ngesa cultivated field

large animals (wild)

nɔɔda crocodile
lella, lewla antelope
kɔɔba horse antelope
ngamala giraffe
nguursa zebra
ngiiwa elephant
ngɛɛda buffalo

large animals (domestic)

ngɛɛɔɔba camel
ngbeewa sheep
ngɔɔrba male donkey

* Thanks to David Wilkins for his suggestions which led to the semantic link proposed here.

It was quite difficult to ask for the words for wild animals in Maasina. In Fuuta Tooro the word for 'crocodile' is listed by Oumar Ba (1977:275) among the words that are absolutely forbidden to be pronounced by all the people of Fuuta Tooro. Words like **ʎamala** 'giraffe', **ʔeɛda** 'buffalo', **noɔda, ɲata** 'crocodile', and **ʎduursa** 'zebra' were not known by most people. But it was easy to obtain in this class the word **ɲiiwa** 'elephant' and the names for the domestic animals like **ʎbeewa** 'sheep'. One reason could be that most of the consultants were sedentary. The advice "you should ask the people from the bush" was often given. Another reason is due to the rapid degradation of the environment, there is not much wildlife left. The word **ʎduursa** 'zebra' is probably not well known because this animal does not live in Mali, the closest place where this animal can be found is in Cameroon.

The taboos on wild animals are probably also a reason for the difficulty in obtaining these words. Taboo might also be the reason for dialectal variation. The word for 'buffalo' is **ʔeɛda** in Maasina and **ʎbana** 'buffalo' in Fuuta Tooro (Ba 1977:75), the Ringimaaji dialect of Cameroon, and Sierra Leone. The word **ʎbana** was given with the meaning 'black donkey' in Maasina. The same stem occurs in Maasina in the word **wane** denoting a black cow, in the NGE class. The name **nagge ladde** 'cow of the bush, wild cow' was suggested in Tenenku. There is not much known about taboo phenomena in Fulfulde. It appears to be important for the classification of nouns and can explain the euphemistic etymologies of some taboo concepts. The subject of taboo is presently being studied by Souleyman Balde (personal communication). Hopefully his insights on taboo in the Fulaadu region in Senegal will soon reveal more about the taboo practices of the Fulbe and their reflection in language.

The suffix forms of the nouns in the BA/NGA class are identical to the suffix forms of the objective and associative word derivation of the KA class.

grade A:	-a	objective word derivation
grade B:	-wa	associative word derivation
grade C and D:	-ba	reinterpretation of the last syllable in words like ʎgelɔɔba 'camel' as a new class marker which resulted in the creation of the BA class

The fact that the suffix **-ba** can always be interpreted as a stem final consonant [b] followed by the suffix form **-a** in nouns led to the hypothesis that the BA class is an innovation of Fulfulde.

7.2.14.1 RELATION BETWEEN THE BA AND THE KA CLASS

The word **ʎgesa** 'field' denotes a plot of cultivated land. This word would actually fit better in the KA class where man-made artefacts and results of human activity are classified. The word **ʎgesa** does indeed occur in the KA class in Aadamaawa (Noye 1989:134). The word **ʎgesa** belongs to the BA class in Fuuta Tooro (Fagerberg-Diallo & Sy 1983:275). The occurrence of the word **ʎgesa** in either the KA class or in the BA/NGA class indicates a close link between these two noun classes.

Mukarovsky (1963:79) concludes that the suffix of the KA class has been replaced by a suffix of the BA/NGA class in a number of nouns from his comparison between Fulfulde

and proto-Bantu noun classes. There are indeed a number of resemblances of the two classes. The predominant suffix allomorphs are **-a** and **-wa** and the initial consonant is prenasalized in both classes.

The only noun in the BA/NGA class that occurs in the KA class in other dialects is the word **ⁿgesa**. At first sight, this is a strange member of the BA/NGA class.

ⁿges-a / gese 'field, plot for cultivation'

There is a noticeable semantic difference between the KA class on the one hand and the BA/NGA class on the other hand. The BA/NGA class denotes animate concepts (animals) whilst the KA class denotes inanimate concepts. The replacement of the BA/NGA concord of the word **ⁿgesa** with that of the KA class concord in other dialects (Noye 1974:326) can be explained by the fact that this word disturbs the semantic classification of the BA/NGA class. The further semantic content of the BA/NGA class consists only of big animals and is strangely exceptionless. The semantic label of big animals suggests that Mukarovsky was perhaps right in stating that a nasal prefix (cognate with the nasal prefix of proto-Bantu class 9 that denotes animals) was attached to the suffixes of the KA class resulting in the suffix form **-ⁿga**. If so, then the BA/NGA class is an innovation. The form **ba** could have been derived from some nouns in the KA class that denoted animals. The last syllable of some animal names containing a stem final consonant [**b**] may have been reanalyzed as the new class suffix. The words that were models for the new class suffix **ba** were words like **ⁿgelooba** 'camel', **ⁿgorba** 'male donkey' **kooba** 'horse-antelope'. Possibly the resemblance between the last syllable of the latter words and the last syllable of the word **daaba** ʔɔ 'animal' also contributed to the innovation of the BA class suffix, even though the word **daaba** is a loan-word from Arabic in the 'O class.

The morphological integration of the word **daaba** 'animal' into the BA/NGA class in Aadamaawa by adding the suffix of this class to it in the word **dabbawa** **ⁿga** confirms the present semantic interpretation of this class (Klingenheben 1963:100). The BA/NGA class denoting big animals has received the augmentative meaning through semantic extension in the eastern dialects (but not in Maasina).

An argument for a relatively late introduction of the BA/NGA class is the absence of a prenasalized form of the concord. The concord **ba** does not combine with a nasal pronoun marker in the derivation. Phonologically, prenasalization of the pronoun **ba** is perfectly possible. Perhaps the innovative development of the concord **ba** has to be placed historically after the nasal pronoun marker ***n** marking the subject and object concord was petrified. Another argument for a recent creation of the BA/NGA class is the existence of different forms of the concord of this animal class in the different dialects. The concord has the form **ba**, **ᵐba**, or **ⁿga** in the different dialects of Fulfulde. There is actually only one word which can synchronically be analyzed as having a plosive initial suffix form **ba**: **ⁿgelooba** **-ba / geloo-di**. Historically, there are good arguments for the analysis of the [**b**] in this word as a stem final consonant. This argument is further developed in section 7.2.14.4 on the **-ba** suffix below.

7.2.14.2 THE GRADE A SUFFIX FORM -a

The suffix form -a marks the objective word derivation. It combines with nominal stems. This form is the most frequently occurring form of the suffix.

ɲiiw-a / ɲiibi	‘elephant’
lewl-a / lewli	‘hind’
nɔɔd-a / noodi	‘crocodile, small species’
ⁿjamal-a / jamali	‘giraffe’
ⁿduurs-a	‘zebra’
mɔl-a / moli	‘donkey’s foal, donkey’s filly’
ɲɔt-a / ɲoti	‘young goat, kid’
ⁿges-a / gese	‘field’
kɔɔb-a / koobi	‘antelope’
gɔrb-a, ⁿgɔrb-a / gorbi	‘donkey, male’

The word for crocodile could be derived from the verb **ɲatude** ‘to bite’. Semantically this is a problematic derivation: a crocodile is usually the subject of biting, not the object.

ɲata / ɲataaji	‘crocodile, big species’	ɲatude	‘to bite’
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The hypothesis is that the BA/NGA class is a later innovation, a split off from the KA class. If this hypothesis is correct, then the vowel initial -a suffixes of both the KA and the BA/NGA class are historically identical. Synchronically however, the suffix forms of the two classes are treated as separate forms.

7.2.14.3 THE GRADE B SUFFIX FORM -wa

The suffix form -wa occurs after stems that are full nouns.

^mbɛɛ-wa / bey	(she)goat’
dakii-wa, ⁿdakiiwa / dakiiji	‘donkey’
tefɛɛ-wa / tefeeji	‘donkey, she-ass’

The suffix form -wa occurs in a few words only. The suffix form -wa is a composite form: the morpheme *ɲ combined with the class suffix -a. The form is identical to the suffix -wa occurring in the KA class. The three nouns should be derived from full nouns *tefɛ, *daki, and *bɛ² on the analogy of other words formed with the associative marker. These stems must have been either loan-words or complete Fulfulde words. The word for goat is possibly formed using the onomatopoeic word *bɛ² for the sound of this animal as the stem.

7.2.14.4 THE SUFFIX FORM -ba

The word for antelope is analyzed as having a stem final consonant [b]. In theory, the word could also be interpreted as a vowel final stem combining with the suffix allomorph **ba**.

gərba , ᵐgərba / gorbi	‘donkey, male’
kəɓba / koobi	‘antelope’

This option is not chosen given the predominant CV(V)C structure for stems in Fulfulde and the occurrence of the [b] in the plural. If the word **ᵐgərba** is derived from the adjectival stem **wər-**, the suffix **-ba** in the word **ᵐgərba** ‘male ass’ is probably chosen on analogy with the irregular formation of the word **gər-kə** ‘man’ (male + person + old possessive suffix).

*wər-	‘male’ (adjective)
gər-kə / wər-ŋe	‘man’
ᵐgər-ba / gorb-i	‘male ass’
wər-d-inᵐde	‘to be male, masculine, strong’
wərwər-de	‘to be male, masculine, strong’ (show off rather than be?)

The verbs **wər-d-inᵐde** and **wərwər-de** are derived from the adjectival stem ***wər-**. The plural **gorb-i** indicates that the [b] has to be analyzed synchronically as stem final. Thus the suffix form **-ba** does occur in one word only.

ᵐgeeləɓba / geelooḏi	‘camel, dromedary’
ᵐgeləɓba / gelooḏi	id.

The diminutive form of this word in Fuuta Tooro is **gelob-el/gelob-on** (Ba 1977:324). This formation suggests a possible analysis of the [b] as the final consonant of the stem. Similar forms like **geelooḏ-el/ngeelooḏ-on** and **gelob-el/ngelob-oy** exist in other dialects (Zoubko 1980:195-6). The vowel length alternation in the first syllable can be explained as a shortening of unstressed long vowels. The first long vowel in a sequence of two syllables with long vowels often shortens when it occurs in an unstressed syllable.

The reinterpretation of the stem final [b] as suffix initial becomes evident in the plural and diminutive forms of the word **ᵐgeləɓ-ba** ‘camel’ which never shows a stem final [b] in Maasina. The plural form **geloo-ḏi** ‘camels’ occurs in all dialects. The diminutive forms **geloogel/gelookoy** ‘little camel’ in Maasina indicate that the stem is reinterpreted as vowel final. The present morphology of the word **ᵐgeləɓba** in the different dialects shows that different interpretations of the boundary of the class suffix have occurred. The word for camel is possibly a loan-word from Berber: **alyem** ‘camel’. Metathesis of the sequence **ly** may explain similar phonological shapes for ‘camel’ in Wolof **geleem** and Serer **yeleem**.

Thus, the whole BA class appears to be a relatively late innovation. Its new semantic function is to distinguish animate nouns from inanimate nouns in the KA class. The actual form of the noun suffix **ba** is not found in the BA/NGA class, it only functions as a marker of a new class defined by the use of this concord. The suffix form **-ba** only occurs in forms that show agreement with words of this class, like adjectives and participles. The relatively late creation of the **ba** class suffix, explains why the subject concord of this class is not prenasalized. The late appearance of this class could perhaps also explain the different forms of the concords **ba**, **ᵐga**, **ᵐba** in the different Fulfulde dialects.

7.3 NON-COUNTABLE CLASSES

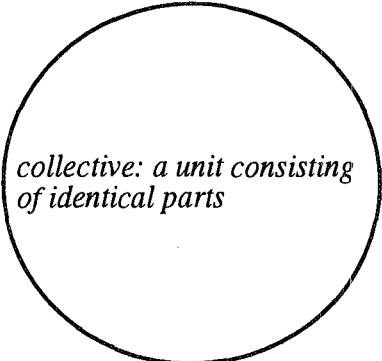
The nouns which occur in the non-countable noun classes denote mainly mass nouns ('DAM and KAL class), collectives (KO class), and indefinite words ('DUM class). The 'DUM class actually does not contain any independent nouns, it only occurs as a concord on modifiers to signal an unspecified thing or person. The concord of the 'DUM class can occur only with the numeral "one": **gootum** 'another, one other' in a countable context. However, the word **gootum** 'another' expresses indefiniteness rather than a singular number.

A few nouns in the non-countable noun classes do form a plural, although the majority of the words cannot form a plural because of semantic incompatibility. The word **hunukɔ** 'mouth' is paired off with the plural formation **kunudɛ** 'mouths'. The occurrence of the word in the KO class is explained by paraphrasing mouth as a collective of identical parts: the lips. The singular/plural pair **ʎar-am d'am/jar-e** 'drink' is the only word which can form a plural in the 'DAM class. Other possible singular/plural pairs are only indirectly related. The word **haakɔ** is often translated as 'leaf' although the word 'foliage' would be a better translation equivalent. The plural form **haakooji** 'leaves' is not the plural of **haakɔ** 'foliage' (cf. Zoubko 1980:211), but it is the plural of **haakowol** 'leaf'.

7.3.1 THE KO CLASS

The KO class is not a very productive class. Its class marker is not frequently used in the formation of verbal nouns or participles. It contains only a few words. Most nouns occurring in this class are the collective names for grasses and for types of foliage. The leaves are used as herbs in sauces and their names are polysemous, they denote both the name of the leaves and the name of the sauce in which they are used. A few names for body-parts and the word for clay and foam also occur in the KO class. The meaning of the collective which expresses the idea that several identical parts are considered to be a whole can also be found in the body parts which are in the KO class. They consist of several identical parts: the mouth has two lips, the pubic hair is made up of a collection of individual strands of hair, **ʎufɔ** 'foam on milk' is made up of many bubbles. The following figure shows the semantic content of the KO class.

hʉdɔ	grass	faykɔ	pubic hair
ʎɔɔ	leaves/sauce of baobab	hunukɔ	mouth
haakɔ	foliage	ʎuppɔ	foreskin
ʎufɔ	foam	ʎiiriwɔ	water-plant



collective: a unit consisting of identical parts

The word **baakɔ** ‘clay’ is a loan-word from Bambara **bɔŋɔ**, it as a mass-noun rather than a collective. Perhaps the form of the last syllable motivated its membership of the KO class which is also non-countable. It is not clear whether the word **guppɔ** ‘foreskin’ is seen as a collective.

Most nouns in the KO class take the initial consonant of the stems from the basic series. The initial consonant of the basic series is mostly continuant. Some words like **gufɔ** ‘foam’ and **guppɔ** occur with an initial prenasalized consonant. The noun **baakɔ** ‘mud’ has an initial plosive consonant. The prenasalized and plosive consonant are the underlying initial consonants of the stems of these words. The following suffix forms occur in the KO class:

grade A:	-ɔ	objective word derivation
grade B:	-wɔ	associative word derivation
grade C:	-kɔ	circumstantial word derivation; only in baakɔ ‘baobab leaves’ on analogy with fokki ‘baobab’
grade D:	-kɔ	subjective word derivation

In the following section the distribution and meanings of these suffixes are further examined.

7.3.1.1 THE GRADE A SUFFIX FORM -ɔ

The suffix form -ɔ marks the objective word derivation. It occurs after simple nominal stems.

ʔɔr-ɔ	‘leaves for sauce; sauce with leaves’
haak-ɔ	‘leaves’
laal-ɔ	‘leaves of tree (Lawsonia inermis?)’
guf-ɔ	‘foam’
gupp-ɔ / guppooji	‘foreskin’
baak-ɔ	‘clay (used to paint things yellow)’

It can also be used to derive nouns from verb stems denoting the cognate or unmarked objects (or states) of that verb. The relation between the verb stem **fud-** ‘to sprout’ and the nominal paradigm of the word grass **hud-ɔ** is based on the form **fud-ɔ** ‘grass’ (Westermann 1909:41, Gaden 1908:53).

fud-ude	‘to sprout, to shoot up’
hud-ɔ	‘grass’ (collective)
kud-ol	‘blade of grass’
kud-i	‘blades of grass’
kud-el	‘small blade of grass’
kud-oy	‘small blades of grass’

Synchronically the alternation f-h is very rare, but it can explain the relation between these words historically. Klingenheben (1927:108-110) describes a historical phonological rule whereby the velar fricative [χ] changed to [h] which eventually could also change to [f]. Klingenheben shows some more cognate forms found in the Fulfulde dialects where [h] (alternating with [k]) corresponds to [f].

Klingenheben		cognate form in Maasina	elsewhere
no feewi	‘many’	[?] ana heewi	
fofuru	‘knee’	howru	
furure	‘half’		hurure
sheefu	‘sheikh’	seeku	sheehu
haa	‘untill’	faa	

The verb **fudude** can also be used for the rising of the sun **naa^ge fudi** ‘the sun rises, has appeared above the horizon’. The grass is the result of the verb to sprout, and can be seen as the unmarked object of the related verb.

7.3.1.2 THE GRADE B SUFFIX FORM -wɔ

The suffix form -wɔ occurs after nominal stems which are loan-words or full Fulfulde words.

ⁿ diirii-wɔ	‘water-plant loved by cattle’
gamaraa-wɔ	‘grass: most favoured kind’

The origin of the stems in the above words is not obvious. The stem ⁿdiiri could be a noun in the NDI class describing a kind of flower.

7.3.1.3 THE GRADE C SUFFIX FORM -kɔ

The derivation of the word **ɓɔkkɔ** ‘foliage of the baobab’ follows the same (irregular) derivation as the tree name **ɓokki/ɓɔhe** ‘baobab’ taking a grade C suffix. The stem for the word **ɓɔkkɔ** is proposed to be ⁿɓɔ[?]. The glottal stop and the consonant [h] are often found in cognate forms in different dialects, sometimes as variants of the same noun in the same dialect.

7.3.1.4 THE GRADE D SUFFIX FORM -kɔ

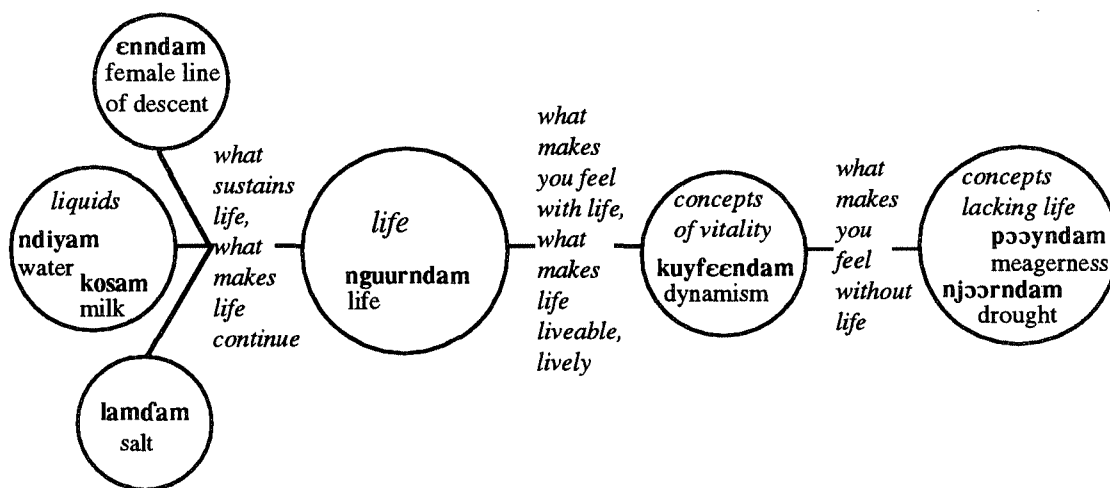
The suffix -kɔ in the words **faykɔ** ‘pubic hair’ and **hunukɔ / kunudɛ** ‘mouth’ are possibly grade D words, although it is difficult to distinguish between the homonymous grade C and D suffixes. These nouns are analyzed as grade D nouns because participles are often descriptive and euphemistic terms. The word **faykɔ** ‘pubic hair’ (also pronounced **faskɔ** in Maasina) could be a euphemistic term. A participle construction “that which” is morphologically possible. So far no verb with the stem **fas-** has been found.

The word **hunukɔ** (also pronounced **hunⁿdukɔ**) ‘mouth’ is based on a participle with the paraphrase “that which has surrounded”. The participle is derived from the verb stem **hunⁿd-** ‘encircle, surround’ (Zoubko 1980:250). The first meaning of the word **hunukɔ** is mouth as part of the face. This meaning agrees with its occurrence in the KO class, the two

lips are identical parts forming one unit: the mouth. A second meaning of the word **hunukə** is the cavity inside the mouth that is surrounded by the lips in which food disappears. The Fulbe say that one should avoid looking at people when they are eating or crying. This avoidance could explain the need for an euphemistic term for the word **hunukə** 'mouth'.

7.3.2 THE 'DAM CLASS

The 'DAM class contains a number of nouns denoting liquids, some abstract nouns, and the word for salt. The word for water has a direct link to life in that it is needed to make life sustainable. The word **ʔen^hdam** 'female line of descent' is something which sustains life, something which makes life continue. The same word **ʔen^hdam** is also used for a very warm kind of friendship, it describes something which makes one feel alive, which makes life worth living. The concepts of milk and salt also have associations with vitality. Milk, salt, and water are things that cause life to be liveable. Other liquids are grouped in this class via the words for milk and water. The word **nguur^hdam** 'life' is a central term in the 'DAM class. Another abstract word is **kuyfɛɛ^hdam** 'dynamism, vitality' which describes a state of mind that makes one feel alive. A relation of antonymy between concepts relating to life and concepts which refer to the absence of vitality links these concepts to the 'DAM class. These are words like **pɔɔy^hdam** 'meagerness' and **ɲjɔɔr^hdam** 'drought', both words are linked to the absence of water. The semantic network of the 'DAM class is given below.



<i>liquids</i>		<i>salt</i>		<i>what makes you feel with life</i>	
ndiyam	water	lamdam	salt	nguur^hdam	life
kosam	milk			kuyfɛɛ^hdam	cleverness
kaadam	sour milk	<i>what makes you feel without life</i>		<i>what makes life continue</i>	
ɔkɔɔɔkɔlam	muddy water	kɔɔ^hdam	nudity	lamdam	salt
jijjam	blood	ɲjɔɔr^hdam	drought	ndiyam	water
nebbam	butter, oil	yɔɔr^hdam	hardness	kosam	milk
ɲjaram	drink	pɔɔy^hdam	meagerness	ʔen^hdam	female line of descent

The following suffix forms occur in the 'DAM class. The suffix forms of grade B and grade C are not found on independent nouns, only on modifiers. The final bilabial nasal is generally not pronounced, instead, the word ends in the nasalized vowel [ã].

grade A:	- am	objective word derivation
grade B:	- jam	associative word derivation
grade C:	- dam	circumstantial word derivation
grade D:	- dam	subjective word derivation
atypical (grade A):	- ʔam	after a vowel
	- l-am	epenthetic [l]
	- ʔd-am	in formation of abstract nouns

The only stem of a noun in the 'DAM class ending in a vowel is found with two different allomorphs in free variation: the allomorphs -**ʔam** and -**lam** in the word **ɔkɔɔɔkɔʔam** also **ɔkɔɔkɔlam** 'muddy, dirty water'. The word is related to the noun **poki** 'dirty person' and the verb **ɔkaade** 'to make oneself dirty with mud or excrements'. The hypothesis is that the suffix form -**ʔam** in **ɔkɔɔɔkɔʔam** 'muddy water' is in fact identical with the underlying form of the class suffix ***ʔam** of grade A. The allomorphs with an initial [l] in **ɔkɔɔkɔlam** 'muddy water' is an innovation which arises by analogy to the reanalysis of the stem final [l] in some plurals as part of the suffix. This [l] also spreads to some diminutive and augmentative class suffixes.

7.3.2.1 THE GRADE A SUFFIX FORM -am

Most nouns in the 'DAM class use the suffix form -**am** of the class suffix. A number of them combine with simple nominal stems.

ʔdiy-am	'water'
ʔjiy-am	id.
ʔiiy-am	'blood'
nɛbb-am	'butter, oil'

The cognate object or state of the following verbs are liquids which explains the use of the grade A suffix form -**am** and their membership of the 'DAM class.

ʔil-am	'flooding, rising of water'	ʔil-de	'to run (of water)'
kaad-am	'sour milk'	haad-ude	'to be sour'
ʔjar-am	'a drink'	yar-de	'to drink'
kɔs-am	'milk'	hos-ude	'to take a step'

The word **kɔsam** 'milk' could be derived from the verb **hosude** 'to take a step'. The same stem is found in the ideophone **kɔsekɔse** describing the sound of the walking feet of cows. Perhaps the word **kɔsam** 'milk' is originally a euphemistic term. Precious things or persons are very often represented by euphemistic terms to mislead evil spirits that might want to take the precious thing away.

7.3.2.2 THE GRADE D SUFFIX FORM **-dam**

A few nouns use the suffix form **-dam** for the 'DAM class suffix. They can be analyzed as participles derived from verbs.

bir-aa-dam	'milk'
daan-ii-dam	'sour milk'
kettin-dam	'creamy milk'
lam-dam	'salt'
ʔen-dam	'female line of descent'

The word **bir-aa-dam** 'freshly milked milk' is derived from the verb **bir-de** 'to milk'. The participle means literally: "that which is being milked". It is not certain whether the words for 'sour milk' and 'creamy milk' are independent nouns in Maasina because they often follow the word for milk as modifier.

The word (**biraadam**) **daan-ii-dam** 'sour milk' is derived from the middle voice verb **daanaade** 'to sleep'. The word for sour milk literally means "(milk) that has slept". It has become sour by keeping it overnight. The word (**biraadam**) **kettin-dam** 'milk with a layer of cream on it' is probably derived from the verb **hettude** 'to cut, to harvest' combined with the causative marker. Literally it is something like 'that which causes to cut away' (you take away the cream). The word for salt **lamdam** is a taboo word that cannot be pronounced, especially not at night. After sunset you have to use the word **mbeldam** 'that which is tasty'. The word **lamdam** could be derived from the verb **lammude** 'to be salty', but the simplification of the long consonant to a short consonant is not common. More common is a vowel between the stem and the suffix which prevents ill-formed syllable structures. This vowel occurs in the adjective **lammudam** as in **diyam lammudam** 'salt water' which is derived from a participle.

The word **ʔendam** 'female line of descent (via mother's milk)' is more difficult to analyze as a participle. Both forms **ʔenⁿdam** and **ʔendam** do occur with the meaning of 'relationship, in maternal line' in Maasina. The forms **ʔendam** and **ʔenⁿdam** also occur with the meanings 'mother's milk' next to the meaning of a relationship via the mother in other dialects. This meaning is extended in Haayre to any special and close relation, e.g. with friends. The word seems related to the noun **ʔenⁿdu/ʔendi** 'breast, udder', to the verb stem **ʔenⁿdude** 'to be patient, to take care of children gently', and to the verb **ʔentude** 'to wean, to educate'. There is no verb stem ***ʔen-** from which a participle **ʔendam** could be derived. The word **ʔendam** 'female line of descent' is also an exception in that it is not a mass noun but rather an abstract concept with an idea of continuity for which the suffix **-dam** seems more appropriate. Perhaps the form **ʔendam** is a reinterpretation of the noun **ʔenⁿdam** confirming the folk-etymology that this relationship is due to the mother's milk. The **-dam** suffix would group the noun with other liquids in this class.

7.3.2.3 THE SUFFIX FORM **-dam**

The suffix **-dam** occurs only on formations of abstract nouns in the 'DAM class. The stems of these derived abstract nouns come from verb stems. The formation of the nouns ending in the suffix **-dam** are similar to participles in that respect. The difference with participles is that the suffix does not refer back as subject pronoun to another noun. The morphemes

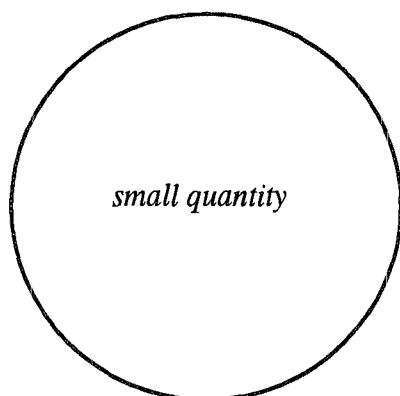
which occur between the stem and the suffix are different. The vowel *-εε-* does not occur as verbal marker in participles, but it does occur with the suffix *-ⁿdām*. The hypothesis is that this suffix combines the resultative extension *-ⁿd-* with the regular form *-am* which occurs after a consonant. The morpheme *-ⁿd-* occurs as an extension on some verb stems. The meaning given to the extension *-ⁿd-* (see also Mohamadou 1985:80) is the achievement of the idea expressed by the verb. The meaning of the verb stem *ṗṗṗy-ⁿd-* in the word *ṗṗṗyⁿdām* could be described as the achievement of being meagre.

<i>ṗṗṗy-ⁿd-am</i>	'meagerness'	<i>fooj-ude</i>	'to be meagre'
<i>kayṑ-εε-ⁿd-am</i>	'cleverness'	<i>hayṑ-ude</i>	'to be skilful'
<i>kəl-ⁿd-am</i>	'nudity'	<i>həl-de</i>	'to lack clothes'
<i>ṑuṑṑ-ⁿd-am</i>	'cold'	<i>ṑuṑṑ-ude</i>	'to be cold'
<i>ⁿguur-ⁿd-am</i>	'life'	<i>wuur-de</i>	'to live'
<i>ⁿjṑṑ-ⁿd-am</i>	'drought'	<i>yṑṑ-de</i>	'to be dry, hard'
<i>yṑṑ-ⁿd-am</i>	'hardness'	<i>yṑṑ-de</i>	'to be dry, hard'
<i>kuyf-u-ⁿd-am</i>	'lightness'	<i>huyf-ude</i>	'to be light'
<i>kuyf-εε-ⁿd-am</i>	'lightness, dynamism'		

The suffix *-ⁿdām* is used to form abstract nouns. The other class suffixes of the 'DAM class describe mass nouns. This separate semantic function suggests an independent morphemic status for the *-ⁿd-* part of this suffix. It is unlikely that the suffix *-ⁿdām* is an allomorph of the suffix *-ⁿdām* used in participles which are derived from verb stems. The phonological change from [d'] to [n'd] or vice versa does not occur elsewhere in the language and it would be an abnormal alternation. The suffix *-ⁿdām* is considered to be derived from the resultative extension *-ⁿd-* combined with the regular suffix form *-am* of grade A.

7.3.3 THE KAL CLASS

All words that occur in the KAL class denote small quantities of the mass nouns which occur in the 'DAM class or the NDI class. The meaning of the class marker is "small quantity of" or "little bit of". This diminutive formation of mass nouns is not very productive. The derivation with the KAL class does not make the terms countable like the NDE class does cf. *tṑṑ-ṑ ⁿgṑ* 'the rain' and *tṑṑṑ-εε ⁿde* 'the drop (of rain)'. Only a few words which belong to the KAL class were collected during field work. The semantic content of the KAL class is represented in the following figure.



cɔnal	little bit of flour, powder	niiral	little bit of (cooked) rice
gafal	little bit of millet	piiⁿdal	small quantity of flowers
bɔsal	little bit of millet porridge	leykal	little bit of soil
kɔsal	small quantity of milk	jaarekal	little bit of sand
dihal	small quantity of water		

The initial consonant of words in the KAL class is taken from the plosive series. This initial plosive consonant form is regular for all words combining with suffixes which end in [l]. The possible suffix forms of the KAL class are given below.

grade A:	-al	objective word derivation
grade B:		no example
grade C:	-kal	circumstantial word derivation
grade D:	-kal	subjective word derivation

The absence of a suffix form **-wal** in nouns is in agreement with the absence of a continuant initial suffix form in the 'DAM class, from which the diminutive mass nouns are derived.

7.3.3.1 THE GRADE A SUFFIX FORM -al

The suffix form **-al** marking the objective word derivation occurs after simple nominal stems.

cɔn-al	'little bit of flour, powder'	con-ⁿdi	'flour'
gaf-al	'little bit of millet'	gaw-ri	'millet'
bɔs-al	'little bit of millet porridge'	^mboy-ri	'porridge'
kɔs-al	'small quantity of milk'	kɔs-am	'milk'
dih-al	'small quantity of water'	ⁿdiy-am	'water'
diy-al	id.		

The diminutive forms in the KAL class of the words **gawri** 'millet' and **^mboyri** 'millet porridge' show that these stems undergo a phonological rule which changes the voiceless continuant consonants [f] and [s] in syllable final position to voiced approximants. The underlying stem final voiceless continuant consonants appear in the mass noun diminutives **gafal** 'little bit of millet' and **bɔsal** 'little bit of millet porridge'. The words **gawri** 'millet' and **^mboyri** 'millet porridge' are widespread forms. Part of the class suffix of the noun in the NDI class is reanalyzed as the stem final consonant in the following two nouns.

niir-al	'little bit of (cooked) rice'	nii-ri	'rice'
piiⁿd-al	'small quantity of flowers'	pii-ⁿdi	'flowers'

The stem of the word **nii-ri** 'cooked rice' is vowel final and therefore it takes the continuant initial suffix form **-ri**. The stem in the diminutive **niir-al** 'small quantity of cooked rice' has the canonical shape CVVC. The initial consonant of the suffix **-ri** in **nii-ri** 'rice' is reinterpreted as the final consonant of the stem. The reanalyzed consonant final stem takes the phonologically predictable vowel initial suffix form of the KAL class as its suffix. Reanalysis must also have taken place in the paradigm of the word **piiⁿdi ⁿdi** 'the blossom,

flowers'. The suffix form *-i* does not occur in the NDI class. The underlying stem of **piiⁿdi** is proposed to be **fiin-**. The suffix *-ri* has become prenasalized suffix initially after a nasal final stem. The form ***piiⁿdi** has shortened the long prenasalized consonant to avoid a V:C: sequence. The metathesis which occurs when the same stem appears in the NGAL class, **piirnal**, **piiⁿdal ⁿgal** 'the flowering season', is perhaps due to an underlying sequence [nr], being the stem final [n] and the underlying suffix initial [r]. The word **piiⁿdi** gives rise to the following derivational paradigm.

piiⁿdi ⁿdi	'blossom, flowers'
piiⁿdiiji di	'different sorts of flowers'
piiⁿdal kal	'small quantity of flowers'
piirnal ⁿgal	'flowering season'
piiⁿdal ⁿgal	'flowering season'
fiiⁿdude	'to flower, to blossom'

The words in this paradigm have taken the prenasalized consonant [ⁿd], resulting from an assimilation of the stem final consonant [n] in **fiin-** 'to flower' to the suffix initial consonant in *-ri*, as their stem final consonant. Zoubko (1980:175) gives two verb stems **fiin-** and **fiind-** with the meaning 'to flower'. The related verb in Maasina is **fiiⁿdude** 'to flower'. It is proposed that historically the form **fiin-** is the underlying form of the verb stem. The verb stem **fiiⁿdude** is proposed to be derived from the noun **piiⁿdi** 'flowering', taking the canonical CVVC form as the stem.

7.3.3.2 THE GRADE C SUFFIX FORM *-kal*

The form of the suffix *-kal* represents both the circumstantial and the subjective word derivation. The type of word derivation which a word has undergone can only be deduced from its semantic etymology as indicated by other nominals in the same nominal paradigm. The mass noun diminutive **leykal** 'little soil' combines with the grade C suffix form *-kal* on analogy with the grade C word **leydi** 'earth, land, country'. The fact that this word occurs in the diminutive class KAL with the meaning 'soil' confirms the hypothesis that the basic meaning of **leydi** is connected with soil, or bare earth.

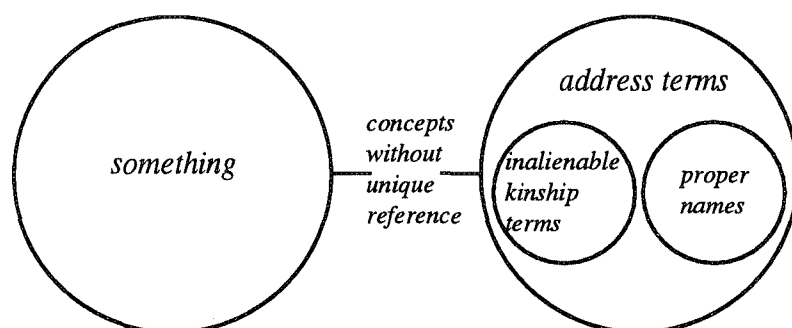
7.3.3.3 THE GRADE D SUFFIX FORM *-kal*

The mass noun diminutive **jaare-kal** takes the form *-kal* on analogy with the subjective word derivation of the grade D word **ⁿjaaree-ⁿdi** 'sand'. The long vowel *-ee-* which probably expresses the passive voice is shortened before a heavy syllable, i.e. the suffix with a CVC structure.

7.3.4 THE 'DUM CLASS

The 'DUM class denotes the unclassified, the unknown, the indefinite, the unspecified. The meaning of this class marker can be described as "something". It is used to describe things that are not specified and therefore cannot be attributed to one of the other classes with a particular semantic content. The 'DUM class suffix does not occur as a noun class suffix. The concord of the 'DUM class is only used on adjectives, demonstratives, pronouns, and participles. It is used as a concord referring to persons or things without a unique reference.

Things without reference can be events described in one or more sentences. Persons without unique reference are proper names and (inalienable) kinship terms which are used as address terms. The referent of a kinship term is not unique. The word **baaba** ‘father’ in itself does not specify who’s father is indicated. The referent of a name like **kadiija** is not unique, because a name only means something if you and the speaker know the same **kadiija**. The uniqueness of kinship terms and proper names is contextual, it is not present in the names themselves. In that respect, names are like kinship terms. Both are especially used as address terms in a well-determined particular context. The semantic content of the group of words which use the concord of the ‘DUM class is represented in the following figure.



The 'DUM class marker has different pronominal forms depending on whether it refers to a person or a thing. The pronoun **dum** ‘something’ is not the same as the personal pronoun **dum** ‘he/she’ which refers to the 3rd person singular, although the two forms are cognate. The class marker **dum** ‘something, it’ refers to unspecified objects, also to larger events that cannot be referred to with one of the other class markers. The personal pronoun **dum** ‘he/she’ is used to refer anaphorically to nouns which are either personal names or inalienable forms of a relationship term. The class concord of the 'DUM class denoting unspecified things follows the formation of other class concords. The personal pronoun **dum** follows the formation of first and second person pronominal forms.

	‘something’	‘he/she’
subject pronoun	dum	dum or Ø (zero)
object pronoun	dum	dum
inalienable possessive pronoun	—	-um
possessive pronoun	majjum	mum, muudum
independent pronoun	kapⁿjum	kapum

The word final nasal in the morpheme **dum** in Maasina is pronounced as [ŋ]. It is very often deleted and its only trace is the nasalization of the vowel yielding a pronunciation of **dum** as **dũ**. The form **dum** ending in a final labial [m] can only be found in very careful speech.

The initial consonant of the stems which combine with a suffix of the 'DUM class is taken from the plosive series. Anticipating the description of adjectives in section 8.1, the suffix forms of the concord of the 'DUM class are listed below.

grade A:	-um	objective word derivation
grade B:	-jum	associative word derivation
grade C:	-dum	circumstantial word derivation
grade D:	-dum	subjective word derivation

A few words seem to have a more specific translation. The meaning “something” of their class suffix is not immediately obvious. For example,

loowirdum	‘spoon; funnel’
fursirdum	‘stick used for removing seeds from cotton’

The claim is that “something” is present in the paraphrase of these words. The word **loowirdum** ‘spoon; funnel’ is derived from the verb **loowude** ‘to put in a recipient’. The stem combines with the extension **-ir-** which is also used to express an instrumental meaning. The participle means “something which you use to put material in a recipient”. The similarity between the different meanings ‘spoon’ and ‘funnel’ given by different consultants is that both a funnel and a spoon can be used to put (liquid or grain-like) material into a recipient. The literal paraphrase seems more accurate than the two translation equivalents which are rather possible interpretations. The paraphrase also supports the idea of “something” as the meaning of **dum**, because any such thing fits the description.

The word **fursirdum** was translated as ‘iron stick used for removing seeds from cotton’ by one of the consultants. It is derived from the verb **fursude** ‘to remove seeds of cotton’. The literal translation of the word is “something used to remove seeds of cotton”. The seeds are removed by a stick which is rolled over the cotton on a stone. The rolling stick is called **fursirdi** ‘iron stick to remove cotton seeds’ when it is made from iron. The word has the suffix of the NDI class on analogy with the word **jamⁿdi** ‘iron’ which is also in the NDI class. The stone on which the cotton is rolled is called **fursirde** ‘stone for removing cotton seeds’, it has the suffix of the NDE class on analogy with the word **haayre** ‘stone’ which is also in the NDE class. The stick with which the cotton seeds are removed can also be from a material other than iron. A more accurate translation of the word **fursirdum** is “something with which one removes seeds of cotton”, where the material from which this object is made is not specified.

The words **kaad^aadum** and **kaad^aaadi** ‘taboo’ were given as a singular/plural pair. The existence of the form **kaad^aaade** ‘taboos’ is an indication that these participle forms were not independent nouns, but rather referring to other nouns in the 'DE or 'DI class, or in case of the 'DUM class to something unspecified for class.

kaad^aadum	‘taboo’ (something forbidden)
kaad^aaadi	‘taboos’ (forbidden animals)
kaad^aaade	‘taboos’ (forbidden things)

The words are all derived from the verb **haad^aude** ‘to stop’ in the passive voice: **haad^aeede** ‘to be stopped’. The verbal marker **-aa-** expresses passive voice and completive aspect. Thus the participle **kaad^aadum** is literally “something which has been stopped”. The

plural form **kaadfaadi** in the 'DI class probably refers to certain **daabaaji** 'animals' which are taboo. The plural form **kaadfaadɛ** refers to **kulle** 'things' which are taboo. So the 'DUM class does not occur in "proper" or "independent" nouns, but only as a concord to refer to indefinite and unclassified things.

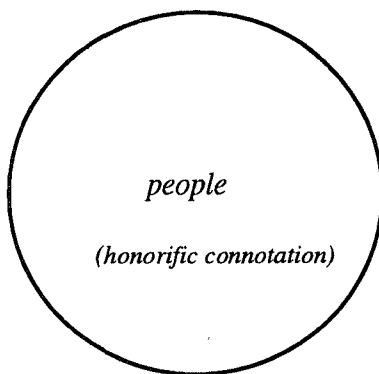
7.4 PLURAL CLASSES

A few nouns in the 'DI and 'DE classes are uncountable nouns which do not have a singular form. Some of these words do not have a clear plural meaning like **golle** 'work' and **jilli** 'desire, love'. The class concord of these nouns shows a shift from the plural 'DE class to the singular 'O class. The word **golle** 'work' can be referred to in Maasina with both concords of the 'O or 'DE class. The choice is determined by the age of the speaker. The historically correct concord **ɔɛ** is more used by older speakers, the semantically correct concord **-ʔɔ** (with regard to number) is more used by younger speakers. The 'O class is a singular class which can contain words without the suffix of the 'O class. The change from the 'DE class to the 'O class limits the content of these plural classes to the nouns which have an actual plural meaning.

First, the meaning and forms of each plural class are discussed. After this, the relation between the singular classes and the four plural classes is discussed in section 7.5.

7.4.1 THE 'BE CLASS

The 'BE class contains nouns denoting people. The suffix always expresses the semantic features [human] and [plural]. The semantic content of the 'BE class can be depicted as one set of nouns which share these semantic features as represented in the following figure.



The 'BE class is the class which is used as the plural of nouns with a suffix of the 'O class. Those words in the plural also refer to human beings, since all nouns with a suffix of the 'O class denote human beings. The 'BE class is also used to form the plural of loan-words which denote human beings which do not have a class suffix of the 'O class but only use the concord of the 'O class. The semantic feature [human] is valid for both the class suffix and the concord of the 'BE class. The suffix forms of the 'BE class are listed below.

grade A:	- fɛ	objective word derivation
grade B:	- fɛ	(preceded by vowel lengthening); associative word derivation
grade C:	- fɛ	(preceded by -iraa-); kinship; circumstantial word derivation
grade D:	- fɛ	(preceded by verbal markers); subjective word derivation
a-typical:	- ʔɛn	

The grade of a noun in the 'BE class can be determined through a comparison of forms within the paradigm. The grades are characterized by the presence of stem final vowel lengthening in grade B, the circumstantial marker in Grade C, and verbal markers in grade D. The grade A and grade D forms are alike when either the vowel *-u-* or no marker at all occurs between the stem and the class suffix. The following two singular/plural pairs contain the same stem and class suffix but differ in word derivation.

hodude	'to settle'
objective word derivation (grade A):	
kɔɗ-ɔ / hɔɓ-ɓe	'guest', 'person being settled (by host)'
subjective word derivation (grade D):	
kɔɗ-dɔ / hɔɓ-ɓe	'someone who has settled, settler', 'person that settles (his family)'

The example is a clear minimal pair: the stem and the class marker are the same, only the grade marker differs. The example thus shows the meaning added by the type of word derivation (expressed by the grade marker).

The atypical suffix form $-^2\text{en}$ is considered to be a suppletive form. This suffix form cannot be derived historically from the suffix form $-\text{ɓe}$. Both class suffixes belong to the 'BE class, because the concord ɓe refers to words ending either in $-\text{ɓe}$ or in $-^2\text{en}$. The class suffix $-^2\text{en}$ is possibly a later innovation because it is mainly used with loan-words. The plural formation $-^2\text{en}$ does not occur frequently in Maasina. The use of the suffix to refer to names of lineages ('own names') still reflects to its historical origin, i.e. the personal pronoun ^2en 'we (inclusive)'. The distribution of the class suffix $-^2\text{en}$ will be discussed in section 4.1.4.

The initial consonant of nouns which combine with the suffix $-\text{ɓe}$ is taken from the basic series when alternation takes place in that stem. Stems which combine with the suffix $-^2\text{en}$ do not undergo initial consonant alternation.

7.4.1.1 THE GRADE A SUFFIX $-\text{ɓe}$

All nouns which take the suffix form $-\text{ɔ}$ marking the objective word derivation in the singular take the suffix form $-\text{ɓe}$ in the plural. The stems of these nouns can be nominal or verbal.

capaat-ɔ / safar-ɓe	'Mauritanian'		
bappaan-ɔ / wappay-ɓe	'uncle: father's brother'		
janan-ɔ / janam-ɓe	'other, stranger'		
pull-ɔ / ful-ɓe	'Fulbe'	full-	'disperse'
neetar-ɔ / neetar-ɓe	'ill-bred person'	neh-	'educate'
gid-ɔ / yib-ɓe	'friend, lover'	yid-	'love'
kɔɗ-ɔ / hɔɓ-ɓe	'guest'	hɔɗ-	'settle'
ɲeeɲ-ɔ / ɲeeɲ-ɓe	'praise singer'	ɲeeɲ-	'flatter' [FT]
ɲeeɲ-ɔ / ɲeeɲ-ɓe	'praise singer'		

gujj-ɔ / wuy-ŋe	‘thief’	wujj-	‘steal’
labb-ɔ / law-ŋe	‘woodworker’	law-	‘work wood’
debb-ɔ / rew-ŋe	‘woman’	rew-	‘obey, follow’
dim-ɔ / rim-ŋe	‘nobleman, noblewoman’	rim-	‘give birth’ (verb) rim- ‘thoroughbred’ (adj.)

A vowel **-u-** can be inserted between the stem and the suffix when the underlying stem final consonant cannot precede the suffix **-ŋe**. The following examples are analyzed as grade A on analogy with their singular forms.

bayl-ɔ / wayl-u-ŋe	‘blacksmith’	wayl-	‘transform’
gaŋ-ɔ / waŋ-u-ŋe	‘enemy’	waŋ-	‘hate’
maab-ɔ / maab-uu-ŋe	‘praise singer, weaver’		
kaab-ɔ / haab-uu-ŋe	‘woman who once has given birth to a child’		
haa^aŋe / kaab-i	‘cow which once has delivered a calf’		

It is not clear whether the vowel **-u-** in these plural forms is the active voice marker **-u-**. If so, then it would be the only verbal marker which occurs in grade A nouns. This vowel **-u-** can be lengthened (it is not clear under which conditions), whereas the active voice marker **-u-** is never lengthened.

The last syllable happens to be **-jɔ** in the singular form of the following words. This is not the grade B suffix **-jɔ** (see section 7.2.1.2) but a stem final consonant [j] and the grade A suffix **-ɔ**.

bam^mbaaj-ɔ / wam^mbay-ŋe	‘praise singer’
jɔm^mbaaj-ɔ / yɔm^mbay-ŋe	‘newly wed’
diimaaj-ɔ / riimay-ŋe	‘(ex-)slave’
surbaaj-ɔ / surbay-ŋe	‘nubile girl’

A number of loan-words ending in a labial consonant have replaced the whole final syllable of the singular word by the suffix **-ŋe** in the plural .

ʔaaraabɔ / ʔaaraaŋe	‘Arab’
taalibbɔ, taalibɔ / taaliŋe	‘Koran student’
burdaame / burdaaŋe	‘Tuareg’

The vowel **-ɔ** in the final syllable in the first two words might have triggered the reanalysis of the final syllable as the class suffix.

7.4.1.2 THE GRADE B SUFFIX **-ŋe** PRECEDED BY VOWEL LENGTHENING

The plural form of words which are derived using the associative word derivation (grade B) all show a long vowel preceding the suffix form **-ŋe**. This vowel length occurs when the plural suffix replaces the singular suffix of a noun also derived using the associative word derivation, and when the singular form is a full noun (mostly a loan-word) to which the plural suffix is added. This stem final vowel lengthening is typical for the associative word

derivation. Singular nouns derived using the suffix form -jɔ replace this suffix with the class suffix -ŋe in the plural.

hɔɔrɛjɔ / hɔɔrɛŋe	‘chief, head, president’
nayɛjɔ / nayɛŋe	‘old person’
ʔannabaajɔ / ʔannabaŋe	‘prophet’
bellaajɔ / bellaŋe	‘Bella’
gargasaaajɔ / gargasaaŋe	‘leather-worker’
julaajɔ / julaŋe	‘trader’
laabaajɔ / laabaŋe	‘beautiful person’
laarabuujɔ / laarabuŋe	‘Arab, Mauritanian’
meereejɔ / meereŋe	‘good-for-nothing, layabout’
kayɛjɔ / kayɛŋe	‘adolescent boy, 14-18 years old’

Agentive nouns which take the suffix form -wɔ of the 'O class in the singular take the class suffix -ŋe in the plural.

carɔwɔ / sarɔŋe	‘judge’
jimɔwɔ / yimɔŋe	‘singer’

A number of relationship terms without a noun suffix show stem final vowel lengthening in the plural. These relationship terms are also exceptional because they are not formed with the plural suffix -iraŋe which is regular for relationship terms. The absence of initial consonant alternation in these terms can be explained by the absence of a class suffix of the 'O class in the singular that would trigger a plosive initial consonant alternation.

saara / saaraŋe	‘parents, family’
suka / sukaŋe	‘child’
surba / surbaŋe	‘nubile girl’

The final vowel of the stem is also lengthened when the suffix form -ŋe is added to loan-words which are not marked by a suffix of the 'O class in the singular.

Some particular stem final vowel changes are typical for loan-words with the class suffix -ŋe. Loan-words from Soninke often end in a final vowel -ɛ. This vowel alternates in the plural with a long vowel -ɔɔ- which is then followed by the plural class suffix -ŋe. This plural form -ɔɔŋe is composed of the singular human class marker -ɔ which is lengthened in the penultimate syllable in combination with the plural human class marker -ŋe. The plural formation -ɔɔŋe also appears in the plural of **tuubaaku**.

kanɔŋke / kanɔŋkɔɔŋe	‘chief, leader’ < Soninke
tɔmɔtte / tɔmɔttɔɔŋe	‘human being’ < Soninke
tuubaaku / tuubaakɔɔŋe	‘Frenchman, white person, European’

This stem final vowel alternation ϵ/ω does not occur in all Soninke loan-words. The human class suffix **-ḡe** is added to the stem when the loan-word has the regular (indigenous) suffix in the singular.

punɛɛjɔ / funɛɛḡe ‘twins’ < Soninke: **fune**

The word **funɛɛḡe** ‘twins’ is derived from the Soninke word **fune** ‘twins’ (Tioulenta 1991:348). The word has been integrated into the Fulfulde language both phonologically (initial consonant alternation) and morphologically (addition of class suffix). Its plural is formed by adding the class suffix **-ḡe** and by lengthening the vowel occurring in the penultimate syllable.

The plural formation **-ḡḡe** is added to the “loan-formation” based on the Soninke morpheme ***-ḡke**. The loan-word formation ending in **-ḡke** always takes **-ḡḡe** as the plural suffix form. Perhaps the vowel [ɔ] in the plural formation **-ḡḡe** is cognate with the suffix of the singular 'O class denoting persons.

benⁿdiḡke / benⁿdiḡḡe	‘herdsman of a benⁿdi ’
fuutaḡke / fuutaḡḡe	‘someone from Fuuta Tooro’
garcinḡke / garcinḡḡe	‘young herdsman, that guards garci ’
hawsaḡke / hawsaḡḡe	‘Hausa person’
julaḡke / julaḡḡe	‘trader’
kunaarinḡke / kunaarinḡḡe	‘someone from Kunaari’
maasinḡke / maasinḡḡe	‘someone from Maasina’
seenoḡke / seenoḡḡe	‘someone from Seeno’
cuudinḡḡe	‘house-mate, living in the same cuudi ’

Loan-words from Arabic and Berber (including Tamashek, the language of the Tuareg) take a plural formation where the final vowel in the singular is replaced by the suffix **-aaḡe**. The long vowel **-aa-** may have come from a final **-a** that occurs in many Arabic loan-words.

ʔalmaami / ʔalmamaaḡe	‘imam, leader in prayer’
gariibu / garibaaḡe	‘beggar’
ⁿjaatigi / ⁿjaatigaaḡe	‘host, hostess’
moodibo / moodibaaḡe	‘marabout, Koran teacher’

The stem final vowel does not change in a number of words where the plural form is based on the full singular nouns.

sakke / sakkeḡe	‘leather-worker’
tɔkara, tɔkɔra / tɔkɔraaḡe	‘namesake’

The final vowel in the above examples is lengthened in the penultimate syllable before the class suffix **-ḡe**. This is the most regular plural formation of nouns derived using the associative derivation in the 'BE class.

7.4.1.3 THE GRADE C SUFFIX **-ፍፂ** PRECEDED BY **-iraa-**

Relationship terms are formed using the verbal extension **-ir-** and the passive completive marker **-aa-** followed by the suffix form **-ፍፂ**. The circumstantial marker **-ir-** is typical for grade C nouns. The fact that the diminutive forms take the grade C suffix **-ፍፂ** is another argument for analyzing kinship terms as grade C.

sakiike / sakiraaፍፂ	‘relative’
jeekiraadፍፂ / jeekiraaፍፂ	‘elder sibling of partner’
baadiraadፍፂ / baadiraaaፍፂ	‘child of sibling of opposite sex’

The plural formation **-iraaፍፂ** is also added to relationship terms that do not end in the relationship participle formation **-iraadፍፂ** in the singular, e.g. in the term **sakiraaፍፂ** ‘relatives’. The word **ፍፂፍፂ/ፍፂፍፂ** ‘child’ is also a kinship term, but it does not combine with the circumstantial marker and its augmentative and diminutive forms suggest that this word is in grade D, even though the stem is nominal, not verbal (see 7.2.1.4).

7.4.1.4 THE GRADE D SUFFIX **-ፍፂ** PRECEDED BY VERBAL MARKERS

Words denoting human beings which are derived using the subjective word derivation and have the suffix form **-ፍፂ** in the singular combine with the suffix form **-ፍፂ** in the plural. The suffix has the form and meaning of the subject concord in productive verbal participles. The words formed with the subjective word derivation are preceded by verbal markers. In the following examples the passive voice completive marker **-aa-** occurs before the grade D suffix.

cabbaadፍፂ / sabbaaፍፂ	‘engaged woman’	sabb-æde	‘be engaged’
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Many nouns in grade D are based on active voice verbs. The active voice marker **-u-** is often omitted.

ፍፂ-ፍፂ / ፍፂፍፂ	‘sick person, patient’	ፍፂ-	‘be sick’
ፍፂ-ፍፂ / ፍፂፍፂ	‘s.o. who is (at a place)’	ፍፂ-	‘be (at a place)’
ፍፂ-ፍፂ, ፍፂፍፂ / ፍፂፍፂ	‘blind person’	ፍፂ-	‘be blind’
ፍፂ-ፍፂ / ፍፂፍፂ	‘bad person’	ፍፂ-	‘be bad’
ፍፂ-ፍፂ / ፍፂፍፂ	‘s.o. who has settled’	ፍፂ-	‘settle’
ፍፂ-ፍፂ / ፍፂፍፂ	‘who has refused’	ፍፂ-	‘refuse’

The insertion of the active voice marker **-u-** can prevent ill-formed syllables in nouns derived from active voice verbs. The following forms show that the active voice marker can be an alternative for the stem final consonant change.

ፍፂ-ፍፂ / ፍፂፍፂ	‘heir, heiress’	ፍፂ-	‘inherit’
ፍፂ-u-ፍፂ / ፍፂፍፂ	id.		
ፍፂ-ፍፂ / ፍፂፍፂ	‘clever, intelligent person’	ፍፂ-	‘be clever’
ፍፂ-u-ፍፂ / ፍፂፍፂ	id.		

baayɗɔ / waasube	‘have-not, can-not’	waas-	‘lack’
baasudɔ	id.		
dapube, daybe	‘rich people’	dap-	‘have enough, harvest abundant’

In the following nouns the active voice marker occurs both in the plural and the singular form.

korsudɔ / horsube	‘sweetheart, lover’	hɔrs-	‘cherish, love’
nattudɔ / nattube	‘lazy person’	natt-	‘be lazy’
ɲardudɔ / ɲardube	‘beautiful person’	ɲard-	‘be beautiful’
baaldudɔ / waaldube	‘spouse’	waal-d-	‘sleep together’
ʔaarnube	‘founders’	ʔaarn-	‘found’
fudɗube	‘founders’	fudɗ-	‘start’
cabbudɔ / sabbube	‘engaged man’	sabb-	‘engage’
diisudɔ / r-, d-iisube	‘rich man’	riis-	‘be rich’
tiidudɔ / tiidube	‘economical person; solid person’	tiid-	‘be hard’

7.4.1.5 THE SUFFIX FORM -ʔɛn

The atypical suffix ʔɛn attached to proper names has the meaning “and those who are with him/her” (Tioulenta 1991:188). It is a kind of group plural.

ʔaamadu-ʔɛn	ɲgar-ii
Aamadu-plural	come-COMPL
‘Aamadu and those who are with him have come.’	

The hypothesis is that this plural formation with the “and those with him/her” meaning has evolved from the personal pronoun of a first person plural; i.e. the pronoun ʔɛn ‘we (inclusive)’. The morpheme ʔɛn is found to denote group names (lineages) and is very often used in more eastern dialects. Arnott (n.d.) gives a large number of lineage names ending in -ʔɛn. The formation with the suffix -ʔɛn is not used to denote lineages in Maasina.

The morpheme ʔɛn used in the formation of names of clans and lineages can be paraphrased as ‘we of X, we belonging to X’. The hypothesis is that a name like **rinɲgimaajiʔɛn** is the “own name”, meaning “we of the Ringimaaji” which can be paraphrased as “we of the cows that originate from Ringim (a place near Kano in Nigeria)”. An “own name” is the name by which a group of people designates itself.

The use of the suffix -ʔɛn in Maasina is not as regular as in the Gombe dialect (Arnott 1970a:124) where the suffix -be is said to be atypical for grade B stems (vowel final stems of full nouns or loan-words). There are a number of loan-words in Maasina that occur with both plural suffix forms -ʔɛn and -be.

The following paradigm shows the semantic expansion from “we of” to the plural formation. All words in this paradigm are derivations of the Arabic loan-word ʔaʃl ‘origin, source’. The formation can still clearly be interpreted as “we of the same ancestor” in the meaning of the word ʔasiliʔɛn ‘descendants of the same ancestor’. The stem **layli** ‘ancestor’, with a singular and plural form, shows the interpretation of the suffix -ʔɛn as a

plain plural marker. The meaning of the two words derived from the same stem with the same suffix has shifted from “X and his people” to “the descendants of” to “the ancestors” to the plural of the ancestors themselves.

ʔasili-ʔen	‘descendants of the same ancestor’
ʔasili / ʔasili-ʔen	‘ancestor, great-great-grandparent’
layli / layli-ʔen	‘ancestor, great-great-grandparent’
layliraadɔ / layliraabe	‘ancestor, great-great-grandparent’

The further integration of this Arabic loan-word into Fulfulde is shown by the addition of the formation **-iraadɔ/-iraabe** that characterizes relationship terms.

The introduction of the suffix **-ʔen** seems to be a late innovation. It is frequent for the plural formation of loan-words referring to humans. The reinterpretation of this suffix as the regular suffix form of the 'BE class in the associative word derivation (grade B) occurs only in more eastern dialects like Gombe. The suffix form **-ʔen** as plain plural marker is still an exceptional suffix in Maasina. It occurs mainly with loan-words. Many loan-words also have the alternative formation with the regular suffix form **-be**.

misikiina / misikiinaʔen, misikiimbe	‘poor person’
naafige / naafigeʔen, naafigeebe	‘nuisance, hypocrite’
talka / talkaʔen, talkaabe	‘poor person’
poki / pokiʔen, pokiibe	‘dirty person’
dɔkkɔ / dɔkkɔʔen, hɔkkɔbe	‘generous person’
ʔalmaami / ʔalmaamiʔen, ʔalmamaabe	‘imam’

The plural formation with the suffix **-ʔen** is found in compound words which denote human beings in Maasina.

jɔm-suudu / jɔm-suuduʔen	‘partner’
jɔwrɔ / jɔwrɔʔen (*jɔm-wurɔ)	‘leader of trekking routes who guards water and grazing rights’

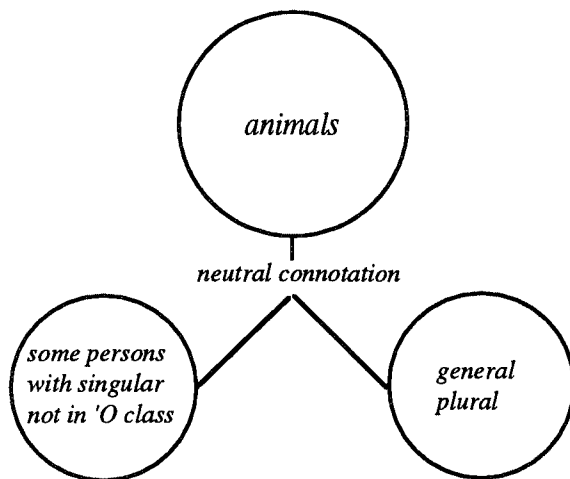
Only the plural formation with **-ʔen** is possible for a few loan-words, especially those from Arabic.

ʔalsilaame / ʔalsilaameʔen	‘Muslim, Moslem’
ʔannasaara / ʔannasaaraʔen	‘Christian’
ʔamiiri / ʔamiiriʔen	‘chief, village leader’
ʔatiime / ʔatiimeʔen, ʔatiimiʔen	‘orphan’
dɔgɔtɔrɔ / dɔgɔtɔrɔʔen	‘doctor’
seede / seedeʔen	‘witness’

The words combining only with the suffix **-ʔen** are not numerous in Maasina. Most nouns that denote human beings take the suffix **-be** as the form of their plural formation. This is true for both original Fulfulde nouns and loan-words.

7.4.2 THE 'DI CLASS

The suffix of the 'DI class forms plural nouns of all singular classes except for the NGAL class. The plural class is chosen on semantic grounds or on morphological grounds. The plural class of the singular classes KOL, NGOL, NDU, and NGU is morphologically determined. These genders combine exclusively with the plural 'DI class. Nevertheless, the hypothesis is that there is a semantic distinction at the base of the plural classes 'DE and 'DI. The 'DI class often forms the plural of nouns which are animate. The 'DI class also functions as a general plural form, especially in a certain morphological word derivation (grade B) where plural forms of loan-words and full nouns are formed by adding the plural suffix to the noun rather than by replacing it with the singular suffix. The semantic network of the 'DI class is represented in the following figure.



A semantic motivation for the choice of the plural class can be shown in the gender formation of singular classes which can combine with both plural classes 'DI and 'DE. The distribution of these two plural classes vis-à-vis one singular class is not arbitrary. The animacy content of the plural 'DI class can be demonstrated by the distribution of plural formation of the nouns in the NDI, NDE, and NGA/BA classes.

	animate: 'DI class as plural		inanimate: 'DE class as plural
NGA/BA class	niiwa / niibi	'elephant'	"gesa / gese 'field'
	lewla / lewli	'antelope'	
NDI class	"gaari / gay	'bull'	"janⁿdi / jand^e 'iron, hour'
	"damⁿdi / dam^{di}	'he-goat'	"geeⁿdi / gelle 'village'
	"boomri / boomi	'maid'	leydi / leyd^e 'land'
NDE class	binikaare / binikaaji	'pig'	sagiire / cagiije 'basket'
	dakiire / dakiiji	'donkey'	yit-ere / git-e 'eye'

There are some nouns denoting animals that bite or sting which do not combine with the animate 'DI class in the plural. They are discussed in section 7.4.3 on the 'DE class.

The choice for the 'DI class is morphologically motivated when the plural is formed by the addition of a plural suffix to the singular noun (resulting in a double suffix in the plural). This formation can only take the suffix forms **-ji** and sometimes **-li**. The singular

class suffix is replaced by the plural class suffix in all other plural formations. The hypothesis is that the semantic animate/inanimate motivation for the plural class is being replaced by the productive *-ji* plural formation. A number of nouns in Maasina have two plural forms: one in the 'DE class replacing the singular suffix with the plural suffix and one in the 'DI class adding the plural suffix to the full singular noun. The more productive plural formation adding the suffix *-ji* is a later innovation.

	singular		semantically motivated	innovative general
			'DE plural	'DI plural
KI class	naaw-ki	'armpit'	naaw-le	naawkii-ji
NDI class	maa-di	'building'	maa-le	maadii-ji
NDE class	misii-de	'mosque'	misii-de	misiidee-ji
NGO class	maay-ɔ	'river'	maaj-e	maayoo-ji
	hɔg-gɔ	'corral'	kɔw-le	hoggoo-ji
	fɔŋⁿ-gɔ	'waterside'	pɔɔm-le	fɔŋⁿgoo-ji
	lees-ɔ	'bed'	lees-e	leesoo-ji

Dialectal comparison, too, shows that the plural 'DE class of some inanimate plural nouns has been replaced by the general additional plural *-ji* (sometimes *-li*).

	plural by additional <i>-ji</i> ('DI) in Maasina		plural by substitutional <i>-e</i> ('DE) in other Fulfulde dialects
NGO class	luum-ɔ / luumoo-ji	'market'	luum-ɔ / luuf-e [FT]
	yees-ɔ / yeesoo-ji	'face'	yees-ɔ / gees-e [FT]
NGE class	yiite / yiiteeji, yiiteeli	'fire'	yiit-e / giit-e [NE]
KA class	laana / laanaaji	'boat'	laana / laad'e [FT]
	tuuba / tuubaaji	'trousers'	tuuba / tuube
	janta / jantaaji	'story'	janta / jante

All inanimate nouns combining with the productive plural 'DI class suffix are formed by the addition of the *-ji* or *-li* to the singular noun. The plural suffix *-ji* is added to the following full singular non-count nouns, adding the meaning of plurality and changing the non-count meaning into concrete countable. The interpretation of these plurals as "different kinds of X, types of X, X's of different people" depends on the meaning of the singular word. This is why the suffix *-ji* is often used to express diversity (Tioulenta 1991:186).

NDE class	juulde	'religious feast'	juuldeeji	'different feasts'
	maayde	'death'	maaydeeji	'deaths of different people'
	ladde	'bush'	laddeeji	'types of wilderness'
	safaare	'modern medicine'	safaareeji	'medicines, kinds of'
	salaare	'refusal'	salaaji	'refusals, kinds of'
NGO class	maaro	'rice'	maarooji	'different types of rice'
	miilo	'thought'	miilooji	'thoughts, different kinds'
	maasiibo	'disaster'	maasiibooji	'disasters, different kinds'

	sagɔ	'wish'	sagooji	'wishes, different kinds'
	tɔfɔ	'rain'	tofooji	'rains, different kinds'
	sippiroɔ	'fight'	sippirooji	'fights, different kinds'
	sakɔrɔ	'daily market'	sakorooji	'kinds of daily markets'
NDI class	niiri	'cooked rice'	niiriiji	'kinds of cooked rice'
	ʔaawdi	'seed'	ʔaawdiiji	'kinds of seed'
	puuddi	'henna'	puuddiiji	'kinds of henna'
	jawdi	'wealth'	jawdiiji	'kinds of wealth'
	ⁿjaareeⁿdi	'sand'	ⁿjaareeⁿdiiji	'kinds of sand'
KI class	yonki	'soul'	yonkiiji	'of different persons'
	keeci	'bottom'	keeciiji	'of different persons'

The general productive distribution of the plural suffix **-ji** developed from the neutral connotation of this plural class and its easy morphological formation: addition to the full singular word. The productive **-ji** plural suffix always forms the plural of words in the 'O class that are not human (cf. 7.4.2.2).

daaba / daabaaji	'animal'
mobel / mobelaaji	'car'

The animate meaning of the suffix **-ji** disappeared and this suffix became a general plural form for all nouns denoting concepts which are not human ('BE), not diminutive (KOY), and not augmentative ('DE).

The suffix forms that occur as noun class markers of the 'DI class are summarized in the table below.

grade A:	-i	objective word derivation
grade B:	-ji	associative word derivation
grade C:	-di	circumstantial word derivation
grade D:	-di	subjective word derivation
atypical suffix:	-li	hypothetical meaning: "a lot of"

Valette (1985) postulates another plural class suffix **bi** in the 'DI class which would be cognate with Proto-Bantu class 8 *vi. This proposal is not tenable because the consonant [b] belongs to the stem, or it is a result of a merger between a stem final labial consonant and *ʔ. Moreover, the semantic content of the Proto-Bantu class 8 which forms the plural of Proto-Bantu class 7 *ki does not match with the group of nouns combining with the proposed **-bi** suffix. Proto-Bantu class 8 groups the plural of utilitarian objects and by extension also despised objects and beings (Denny & Creider 1986:237). However, most nouns with the proposed suffix **-bi** denote animals. There are two (animate) nouns in Maasina where the last syllable has the form **-bi** which is analyzed by Valette as a plural suffix and where the [b] cannot be found in the surface form of the singular noun.

ɲalɛ / ɲalbi	‘calf, heifer, cow’
haaⁿgɛ / kaabi	‘cow which once has delivered a calf’

A comparison of these words with other words based on the same stem shows a stem final labial consonant. A stem final labial consonant is found in the words **kaabɔ/haabuufɛ** ‘woman who bore a child once’. It is the singular form **haaⁿgɛ** which is difficult to explain. Perhaps the underlying form is ***haab-ⁿgɛ** where the subjective suffix of grade D was added due to reanalysis of a former nominal grade A stem. A stem final labial consonant is also found in the stem of the word ***ɲalw-**. A merger of the stem final consonant in ***ɲalw-** with the initial consonant of the suffix ***²i** could have resulted in the form **ɲalbi**. Mukarovsky (1962b:135) assumes that the word **ɲalɛ** ‘calf’ is derived from the verb stem **ɲalw-** which is **ɲawl-** ‘to be noon’ in Maasina. In this study words ending in a final syllable **-bi** which use the concord of the ‘DI class are analyzed as grade A nouns with a stem final [b] followed by the grade A suffix **-i**.

7.4.2.1 THE GRADE A SUFFIX FORM **-i**

The suffix form **-i** marks the objective word formation of plural nouns derived from nominal or verbal stems.

dammul-ol kol / dammul-i	‘the lamb, kid’
bal-ol ⁿgol / bal-i di	‘the stroke of leaf of palm’
talk-uru ⁿdu / talk-i	‘the leather amulet with Koran verse(s)’
tonⁿ-du ⁿdu / ton-i	‘the lip’
ton-u ⁿgu / ton-i	‘the labia’
^mbeel-u ²ɔ / beel-i di	‘the shadow, reflection’
waag-ɛ ⁿgɛ / baag-i	‘the cow with white sides’
sɔl-ɛ ⁿgɛ / col-i	‘the cow with small spots’
^mboom-ri ⁿdi / boom-i	‘the young woman, sturdy and strong’
ⁿjamal-a ba / jamal-i	‘the giraffe’
nɔɔd-a ba / nood-i	‘the crocodile’
^mbuub-u ²ɔ / buub-i	‘the fly’ (sg. suffix NGU class)
ⁿgur-u ²ɔ / gur-i	‘the skin, leather’ (sg. suffix NGU class)

The suffix form **-i** marks words which are derived from verbal roots that are semantically characterized as the cognate object (or default object) of the related verb. This is the case with the following examples.

bom-ol / bom-i	‘dance’	wom-ude	‘to dance’
²uj-iri / ²uj-i	‘ox’	²uj-ude	‘to castrate’
daw-ol / daw-i	‘journey’	daw-ude	‘to travel’
diid-ol / diid-i	‘line’	diid-ude	‘to draw a line’
gas-ol / gas-i	‘furrow’	²as-ude	‘to dig’
lanⁿ-al / lanⁿ-i	‘question’	lanⁿ-aade	‘to ask’
ⁿdim-u / dim-i	‘thoroughbred’	rim-ude	‘to give birth’
binⁿ-ol / binⁿ-i	‘writing’	winⁿ-ude	‘to write’

taal-ol / taal-i	‘story’	taal-aade	‘to tell’
ceel-ol / ceel-i	‘leather string’	seel-ude	‘to cut in strips’

The above examples combine both in the singular and in the plural with the suffix forms that mark the objective derivation. This confirms Arnott’s statement that in general one stem combines with one suffix grade (1970a:87). The initial glottal stop of the noun class suffix **-ʔi* marking the objective word derivation has sometimes caused phonological changes resulting in stem final consonant alternation.

lefol / leppi	‘woven strip’
sawru / cabbi	‘stick’
piiwa / piibi	‘elephant’
puupu / puuji	‘ant’
wiige / bijji	‘calf 3 to 4 years, mature heifer’
nagge / nay, naʔi	‘cow’
wowru / bofi	‘mortar’
faa^mburu / paa^{bi}	‘frog, toad’
^mbæewa / bey	‘(she-)goat’
ⁿgaari / gay, gey	‘bull; male calf’
^mboori / bohi	‘bull: head (front) has other colour’
wəhe / bohi	‘cow: head (front) has other colour’

The phonological changes occur especially when the underlying stem final consonant is [+continuant]. Different phonological rules and different historical derivations account for the stem final consonant alternations that occur in the surface forms of the above examples which are discussed in section 3.2.

7.4.2.2 THE GRADE B SUFFIX FORM -ji

The suffix form *-ji* marks the associative word derivation. It is added to full nouns which are either loan-words or indigenous Fulfulde nouns. The plural suffix *-ji* added to the singular noun, often resulting in a double suffix in the plural, is typical for the morphology of loan-words (Tioulenta 1991:245). The loan-words are also characterized by the absence of initial consonant alternation which is usually triggered by a change of class. The associative derivation (grade B) is also present in the singular forms which are derived from full nouns when the plural suffix *-ji* replaces the singular class marker. This is shown in the examples below.

firamaawe ⁿge / firamaaji	‘milk cow’
korboori ⁿdi / korbooji	‘stud bull, breeding he-goat’
binikaare / binikaaji	‘swine, pig, boar’
dakiire / dakiiji	‘donkey’
haramaaru ⁿdu / karamaaji	‘illegitimate child’ < Ar.
haakowol ⁿgol / haakooji	‘leaf’
kokowol ⁿgol / kookooji	‘wall’ < Bambara <i>kógó</i>
haramaaru ⁿdu / karamaaji	‘illegitimate child’ < Ar.

The suffix *-ji* can only replace the singular class suffix when the semantic associations (animate, plural) of the 'DI class are present or when the 'DI class is the morphological plural of the singular class (NGOL, NDU, NGU).

The suffix form *-ji* is often added to the full singular noun, instead of normal plural formations where the singular suffix is replaced by the plural suffix. This suffix *-ji* is added to the singular noun and it can be found as the plural of all singular classes except for the NGAL class. The suffix *-ji* is added to the full form of the singular noun in the following examples.

waajibi ʔɔ / waajibiiji	'the obligation' < Arabic
tamaati ʔɔ / tamaatiiji	'the tomato' < French
kamsel ⁿ gel / kamselaaji	'the modern dress' < Fr. "camisole"
butel ⁿ gel / butelaaji	'the bottle' < French "bouteille"
safaare ⁿ de / safaareeji	'the medicine (modern)' < Berber
juulde ⁿ de / juuldeeji	'the religious feast'
yoŋki ki / yoŋkiiji	'the soul'
keeci ki / keeciiji	'the hip'
tɔbɔ ⁿ gɔ / tofooji	'the rain'
sakɔrɔ ⁿ gɔ / sakorooji	'the daily market'
ʔilam / ʔilamaaji , ʔilemeeji	'the flooding'
ⁿguppɔ kɔ / ⁿguppooji	'the foreskin'
faykɔ kɔ / faykooji	'the pubic hair'
ŋata ba / ŋataaji	'the crocodile, big species'
daaba ba / daabaaji	'the animal'
kaasa ka / kaasaaji	'the blanket'
laana ka / laanaaji	'the boat'
maadi ⁿ di / maadiiji	'the building'
saye ⁿ ge / cayeeji	'the yellowish, brass coloured cow'
lamru ⁿ du / lamruuji	'the name giving feast'
kurtuⁿgu ʔɔ / kurtuⁿguuji	'the wedding' (sg. NGU suffix)
ⁿduŋⁿgu ʔɔ / ⁿduŋⁿguuji	'the rainy season' (sg. NGU suffix)

The occurrence of the 'DI class as plural of the word **kamsel** 'dress' and **butel** 'bottle' in the NGEL class is explained only by the loan-word origin of the stem. The suitability of the suffix form *-ji* as the plural marker of loan-words follows from the type of formation indicated by the associative word derivation: the stems which combine with *-ji* are in themselves already full words. This word structure is the same as the plural derivation of loan-words.

maayde	'death'	maaydeeji	'deaths of different people'
janⁿjere	'manifestation'	janⁿjereeji	'different manifestations'
piiⁿdi	'blossom'	piiⁿdiiji	'blossom of different trees'

The suffix *-ji* functions as the general plural of nouns which form their plural by the addition of a plural suffix to the singular noun. It can also occur on nouns which do not

have a suffix in the singular. This suffix also functions therefore as the plural of loan-words in the 'O class and of words that shifted from another Fulfulde class into the 'O class.

ʔaada / ʔaadaa-ji	'custom'	[Ar.]
kabaaru / kabaaruu-ji	'news'	[Ar.]
haal-a / haalaa-ji	'word'	*KA class; verb stem from Ar.
ᵐbat-a / ᵐbat-aa-ji	'large sack of cloth'	*KA class

The plural suffix has the form **-aaji** when a loan-word has a final consonant. The vowel [a] occurs as the final vowel in many (especially Arabic) loan-words. The vowel is inserted on analogy with the plural of other loan-words.

butel / butel-aaji	'bottle'
bitik, bitiki / bitik-aaji	'shop'

The suffix **-aaji** also replaces a final vowel **-e** of a number of loan-words in the formation of their plural.

dɔllɔkke / dɔllɔkk-aaji	'gown, long shirt'
dɔle / dɔl-aaji	'power'
sɔgone / sɔgon-aaji, sɔgonee-ji	'elbow' < Soninke sɔgone
ʔarkille / ʔarkill-aaji, ʔarkillee-ji	'mosquito net' < Ar.

The plural form **-ji** occurs as an alternative in the plural of last two words which can also form their plural with **-aaji**. The form **-aaji** appears to be a more recent innovation.

The plural suffix **-ji** of the associative word formation is also used for the naming of cow lineages by their place of origin. According to Gallais (1984:77), names of cow herds are characterized by the suffix **-ji** when indicating affiliation. He gives a few examples of names of herds. They are given in phonological transcription. The correct vowel length in the following word could not be deduced with certainty from the French orthography for Fulfulde used by Gallais.

herd	people	place	(French spelling of place)
jafaraaji	jafaraaɓe	Jafara	(Diafara)
burguuji		Burgu	(Bourgou)
jalli	jalluɓe	Wuro Jalluɓe	(Ouro Diallubé)
jallali	yallalɓe	Yuwaru	(Youwarou)
cori	coriŋkɔɓe	Toggere Kumba	(Toguéré Koumbé)

The last example is from my own field notes taken in Toggere Kumba. Herd names are only formed with the suffix **-ji** when the stem is a full noun which is mostly a place name. Herd names ending in **-ji** indicate geographic affiliation. The plural suffix **-i** occurs when the herd name indicates tribal/lineage affiliation, in which case the lineage names of the people are derived from the name of the cows.

7.4.2.3 THE GRADES C AND D SUFFIX FORM **-di**

The suffix form **-di** marks the subjective word derivation. It is identical in form to the subject pronoun of the 'DI class. It occurs in nouns which are etymologically derived from participles. The suffix **-di** also forms the plural from nouns which are derived with the circumstantial word derivation.

grade D	salⁿdu ⁿdu / caldi	'the body / body parts'
	boŋⁿgu ^ʔɔ / bowdi	'the mosquito' (sg. suffix NGU class)
	ⁿgilⁿgu ^ʔɔ / gildi	'the worm' (sg. suffix NGU class)
	carŋiniiⁿdi ⁿdi / carŋiniidi	'the bull with horns pointing forwards'
	ⁿdanⁿdi ⁿdi / dandi	'the he-goat'
	sootiŋⁿge ⁿge / cootindi	'the cow heavy with calf'
	dupcaaⁿge ⁿge / dupcaadi	'the cow left in the village'
grade C	jaŋⁿgirdu ⁿdu / jaŋⁿgirdi	'the school'
	reedu ⁿdu / deedi	'the belly'
	suudu ⁿdu / cuudi	'the house, room'

The following alternative plurals show that the occurrence of several grades in one nominal paradigm could be the result of a reanalysis of the suffix form. Both plural forms **toni** and **tondi** are found in Maasina (see section 7.2.2.1).

tonⁿdu / toni	'lip'
tonⁿdu / tondi	'lip'

A comparison of these words with the word **tonu** '(one) labia' shows that grade A is the original suffix grade of the stem ***tɔn-** 'lip, labia'. The replacement of the plural suffix **-i** by the suffix marking the subjective word derivation (grade D) is motivated by the resemblance of the surface form of the final syllable **ⁿdu** to the subject pronoun in **tonⁿdu** 'lip'.

The alternative plurals of the word **taltalol** 'rein' combine either with the grade A suffix **-i** or with the grade D suffix **-di**.

taltalol ⁿgol / taltali	'the rein' (Zoubko 1980:464)
taltalol ⁿgol / taltaldi	'the rein' [Maasina]

The verb stem **taln-** 'fall with a horse' and the middle voice verb stem **taln-ɔɔ-** 'fall from a horse' can be derived from a noun stem. The verb stem **tall-** 'train a horse, hold a horse under control' which is attested in Maasina (Zoubko 1980:463) also seems related to this word. The reduplication of the stem indicates a weakening of the meaning of a verb stem. The reins are considered to control the horse, but not completely. The actual control is executed by the rider. This meaning "not completely" is added by the reduplication of the stem. The replacement of the suffix **-i** by the suffix **-di** is perhaps motivated by the verbal character of the reduplicated stem. The word **taltaldi** is perhaps reanalyzed as a participle: "those (ropes) that control the horse but not completely". The replacement of the original

plural suffix **-i** by the suffix **-di** can also be motivated by the instrumental meaning of this nominalization.

The reanalysis of the last syllable **ba** in **ⁿgelɔɔba** as a new class marker has motivated the choice of the plural form **-di** which alternates regularly with plosive initial suffix forms.

ⁿgelɔɔba ba / geloodi	‘the camel, dromedary’ [Maasina]
gelob-el ⁿgel / gelob-on	‘the small camel’ [Fuuta Tooro] (Ba 1977:324)

The regular form ***geloobi** was not encountered in the comparative data, but it is thought to be the historical form occurring before the innovation of the BA class took place. The diminutive formation **gelobel/gelobon** supports the hypothesis that the historical underlying stem of this word has a final [b].

The form **di** occurs as the concord in productively derived participles. It can refer to all plural forms of the **-di** class irrespective of the grade of the noun referred to.

7.4.2.4 THE SUFFIX FORM **-li**

The meaning of the suffix **-li** appears to be very similar to that of the suffix **-ji**. There is one paradigm where the suffix **-li** forms a plural “a large amount of” rather than “many concrete kinds or amounts of”.

kenuu-li	‘a lot of wind, storm’	henⁿdu	‘spirit, wind’
ken-i	‘spirits’		

The plural form **kenuuli** ‘storm’ describes “a lot of wind”. It is the plural of the meaning ‘wind’ of the singular word **henⁿdu** ‘spirit, wind’. The plural form of spirits is **keni**. These examples indicate a difference in meaning between the plural forms **-i** and **-li**. The morpheme **-l-** occurring in the suffix **-li** (and **-le**) perhaps has some kind of augmentative meaning. The distribution of the suffix **-li** differs from that of the suffix **-ji**. The suffix form **-li** occurs as the plural suffix of nouns having their singular in all grades. The suffix **-ji** occurs only in grade B (with a full noun as the stem). The following examples are grade A nouns with the plural suffix **-li**.

ⁿgumar-di / guma-li	‘bull without horns’
wumar-ε / guma-li	‘cow without horns’
moor-ol / mool-li, moo-li	‘braid, plait’
wuttul-du / guttul-li, guttul-i	‘flank’

The word **moorol/moolli** ‘plait’ is the cognate object derived from the verb stem ***mɔɔr-** ‘plait’. The morpheme **-ar-** in the stem ***wum-ar-** ‘without horns’ is the pejorative marker. There are a number of variant forms in the nominal paradigm of the stem ***wumar-** ‘without horns’ that show an irregular consonant alternation between [l] and [r].

wumar-ε / guma-li	‘cow without horns’
wumal-ε / guma-li	‘cow without horns’
ⁿgumar-di / guma-li	‘bull without horns’
ⁿgumal-di / guma-li	‘bull without horns’
ⁿgumar-di / gumar-di	‘bull without horns’

These forms are the result of reanalysis. The stem final *r has possibly merged with the initial consonant of the suffix in the plural. The sequence *rɫ results in rr elsewhere in the language. The sequence *rʔ can result in either a geminate stop [dd] or, when the loss of the glottal stop is completely lost, [r]. This paradigm poses a problem for the construction of the underlying form of the plural suffix.

The suffix -li can also be found in grade B added to the full form of the singular noun. Some plurals in grade B have alternative plurals. It is not clear whether these alternative plurals differ in meaning.

ceeduuli	‘hot dry seasons’	ceedu	‘hot dry season (March-June)’
cogguuli	‘prices’	coggu	‘price’
cumuuli	‘fires’	cumu	‘fire’
yiitee-ji	‘fires’	yiit-ε ⁿge	‘fire’
yiitee-li	‘fires’		
haḃoo-ji	‘fights’	haḃ-ɔ ⁿgɔ	‘fight’
haḃoo-li	‘fights’		

The first three examples have shifted their class concord from the NGU class to the 'O class. The NGU class suffix is present in the singular and it is also present in the plural.

A small number of words in grade C use the plural suffix -li.

kol-li	‘lutes’	hod-du	‘lute’
gul-li	‘navels’	wud-du	‘navel, umbilicus’
kojju-li	‘occipital holes’	hojju-du	‘occipital hole, hole in the back of the head’
baaw-li	‘sickles’	waaw-du	‘sickle to harvest rice’

There are two words with a suffix -li which may be related to a verbal noun formed in grade C which is the infinitive.

jilli	‘desire, love’	yidde	‘love; to love, like, want’
gilli	‘friendship’		

These words are related to the verb stem **yid-** of the verb **yidde** ‘to like, to want, to love’. The nominal infinitive **yidde** ‘to love’ can also be translated as the noun ‘love’. May be the words **jilli** ‘desire, love’ and **gilli** ‘friendship’ can be paraphrased as ‘a large amount of liking, loving and/or wanting’ thus confirming the hypothetical augmentative meaning of the morpheme -li-. The verb stem **yid-** occurs with the initial consonant alternating with j:ⁿj in productive deverbal derivations. The translation equivalent of **yid-** in these nouns is mostly ‘to want, to love’.

jid'aadɔ	'one who is loved'
ʔeβe ʔjidi	'they love, want'
jilli	'love, desire'

The nouns derived from the verb stem **yid-** that show the stem initial alternation [**g**, **ʔg**] is less productive. The notion of friendship seems more dominant in these words.

gidɔ	'friend, lover'
gid'iraadɔ	'friend'
giggol	'friendship' (the action of being friends)
gid'aadɔ	'personal name: beloved one, liked by many'
gilli	'friendship, empathy'

The suffix **-li** occurs frequently in grade D nouns. The following words are some examples of grade D nouns with the plural suffix **-li**.

d'aanⁿdi, d'aaⁿdi / d'aalli	'trained carrying bull'	d'aat-	'be soft, trained, easy'
βunⁿdu / βulli	'pit'	βul-	'flow (of water)'
fede'eⁿdu / pefeeli	'finger'	fed-	'fasten buttons'
fooⁿdu / pooli	'bird'		
(βanⁿdu) / βalli	'vaginas'		
suuⁿdu / cuuli	'jackal'		
weeⁿdu / beeli	'lake, pond'		
faaⁿdu / paali	'gourd, fruit of calabash'		
siiⁿge / cili	'cow of a certain colour'		
yeeⁿdu / jeeli	'ant-eater'		

Some nouns can be interpreted as subjects of the verb stem. Other nouns are classified under the subjective word derivation because of the similarity in morphological structure between these words and participles. The stems of nouns in the subjective word derivation often contain verbal markers such as **-u-** (active completive) or **-aa-** (passive completive). The words which describe noises are a particular group of nouns in the subjective word derivation that always use the plural **-li** which is preceded by the passive completive marker **-aa-**.

holβuⁿdu / kolβuli	'ankle'		
soββuⁿdu / coββuli	'corner'		
sukuⁿdu / cukuli	'head-dress'		
wutaaⁿdu / butaali	'cob of millet'		
wuugaaⁿdu / buugaali	'pigeon, dove'		
gidaaⁿgɔ / gidaali	'thunder, rumbling of thunder'	gid-	'thunder'
hijaaⁿgɔ / kijaali	'neighing, sound of a horse'	hij-	'neigh'
ʔillaⁿgɔ / ʔillaali	'sneeze, sneezing'	ʔill-	'sneeze'
wuttaaⁿgɔ / guttaali	'whistling, flute'	wutt-	'whistle'
jɔwtaaⁿgɔ / jɔwtaali	'greeting'	jɔwt-	'greet'

wɔfaa ⁿ gɔ / gɔfaali	'bark'	wɔf-	'bark'
ʔuuma ⁿ gɔ / ʔuumaali	'groan, sigh'	ʔuum-	'groan, sigh'
fɛlɲaa ⁿ gɔ / pɛlɲaali	'lightning, lightning stroke'	fɛlɲ-	'flash, lighten'
wullaa ⁿ du / gullaali	'penetrating cry'	wull-	'cry (of children)'

The fact that the plural of nouns describing noises is formed with the suffix *-li* may be motivated by the possible augmentative meaning of the [l] in *-li*. Many noises form an amalgamation of noises, a lot of noise, a large amount of noise.

The following examples show alternative plurals with the suffix *-li* and with the suffix *-ɗi* that occur in both the circumstantial and the subjective word derivation.

daa ⁿ gol / daalli, daaɗi	'rope with which calves are tied down'
caa ⁿ gol / caali, caaɗi	'stream'
saafaa ⁿ du / caafaali, caafaadi	'jackal; leopard'

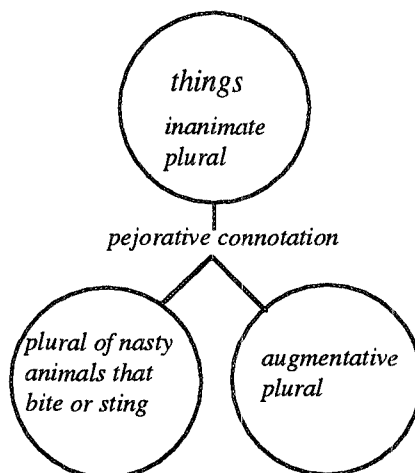
The plural form with the suffix *-ɗi* may be a reanalyzed regular grade D formation. Another grade D word ending in *-li* is the plural of *jaaⁿgol* 'cold'.

jaaⁿgol / *jaali*, *jaaⁿgooli* 'cold' < *jaaⁿgudɛ* 'to be cold'

The suffix *-li* in *jaaⁿgooli* has been added to the full singular noun *jaaⁿgol* 'cold'. This plural formation is atypical for consonant final stems.

7.4.3 THE 'DE CLASS

Several meanings can be attributed to the nouns in the 'DE class. The 'DE class can express a plural, an augmentative, a pejorative and an inanimate meaning. All these meanings are not always present in each word formed with a suffix of the 'DE class. The semantic network of the 'DE class is represented in the following figure.



The augmentative class NGAL always forms its plural with the 'DE class, this is because of the augmentative meaning of the plural class 'DE. This augmentative meaning seems more important than its inanimate meaning in the formation of plurals. All the big birds that have

their singular in the NGAL class combine in the plural with a suffix of the 'DE class despite the fact that they are animate. The use of the 'DE class suffix as the plural for inanimate nouns has already been demonstrated in the distribution of the suffix classes 'DE and 'DI (cf. section 7.4.2). In this section, an explanation is given for a number of nouns which combine with the plural 'DE class even though there is an animate semantic component in their semantic structure. The following nouns denoting animals form their plural in the 'DE class.

NDE class:	saṅalde / caṅale, caṅaldɛ	'porcupine'
	wɔjere / bɔje	'hare'
	yaare / jahe	'scorpion'
	giireere / giireeje	'animal similar to a ground squirrel'
	huupaare / kuupaaje	'tortoise'
	?amre / ?ame	'water tortoise'
	— / kɔhɔɔɔɛ	'beetle which destroys millet'
	fipaare / pipaaje	'captain fish (Lates niloticus)'
NDI class:	ᵐboddi / bɔlle	'snake'
	pallaaᵐdi / pallaadɛ	'lizard'

The hypothesis is that the animals which do not take the animate plural 'DI class take the inanimate 'DE class because of their pejorative connotations. All these animals can cause nasty stings or bites which hurt people or cattle or destroy harvests.

The diminutive NGEL/KOY and the augmentative NGAL/'DE classes have pejorative connotations. Like the diminutive, the augmentative has a pejorative meaning. Anything that is larger or smaller than its normal size is out of its normal proportions. This abnormality is a negative quality which accounts for the pejorative connotation. The pejorative connotation of the augmentative plural 'DE class also involves some connotations of danger. The meaning of largeness indicates perhaps that the pejorative item in question should not be underestimated.

The pejorative connotation which motivates the choice of the augmentative plural 'DE class in the above examples does not clash with the fact that the 'DI class is the plural of animate nouns. It only proves that the augmentative meaning and the related pejorative meaning of a noun are a stronger semantic motivation for the choice of the plural class. These two features override the animacy feature.

The word **ᵐboddi/bɔlle** 'snake' is an animate noun that has its plural in the 'DE class because people think of it as a nasty and biting animal. The word **ᵐboddi** 'snake' is a taboo word. Consultants never gave me this word for snake. Instead, they gave the expression **ɓoggol leydi** 'snake' which literally means 'rope of the earth'. The word **ᵐboddi/bɔlle** is used by a praise singer in the story of Sillamakka and Pulloori (Seydou 1972:84).

The word for lizard also has its plural in the 'DE class in Maasina, but it occurs in the animate plural 'DI class in other dialects. Even its singular class can differ in other Fulfulde dialects.

fallaaⁿdu / pallaadi	[FT]
pallaaⁿdu / pallaadi	[V]
pallaaⁿdi / pallaadɛ	[M, NE]
pallaaⁿgal / pallaadɛ	no dialect indicated (Zoubko 1980:395)

The word **fallaaⁿdu** 'lizard' is in the NDU class with other animals connected with the house in the Fuuta Tooro dialect. It takes the regular animate plural 'DI class. The dialect with the forms **pallaaⁿgal/pallaadɛ** 'lizard' takes the plural 'DE class because of the singular augmentative NGAL class. The lizard is only found in the NDI/'DE class in Maasina [M] and Eastern Niger [NE]. It would be interesting to see how people perceive the lizard in the different dialect areas to see whether there is a correlation between the class and the perception of this animal.

Although the 'DE class is the plural of inanimate nouns, some inanimate nouns combine with the suffix **-ji** of the 'DI class. These exceptions can be explained by the fact that the suffix **-ji**, which is added to the full singular noun, has become a generalized plural for both animate and inanimate nouns (see section 7.4.2.2).

There are also a number of nouns that are not related to any singular noun where the plural meaning of the 'DE class is not immediately obvious. For this reason some of these nouns are also found using the concord of the 'O class.

beete	'morning'	weet-	'pass the morning'
golle	'work'	goll-	'work'
kedde	'remains'	hedd-	'remain'
yaafɛ	'pardon, forgiveness'	yaaf-	'forgive'
juile	'view'	yih-	'see'
tuutaadɛ	'phlegm, mucus, sputum'	tuut-	'spit, vomit'
baawɛ	'power'	waaw-	'be capable'

Some objects in the 'DE class consist of two equal parts. They have no singular form.

mesekeɛje	'scissors'
kampaaje	'pincers to hold small pots with melted metal'
kuppuuje	'pincers to hold hot metal in order to bend it'
gallaadɛ	'horns'

The initial consonant of the nouns in the 'DE class take the form of the alternating consonant in the plosive series. The different suffix forms which belong to the 'DE class are listed below.

grade A:	-ɛ	objective word derivation
grade B:	-je	associative word derivation
grade C:	-dɛ	circumstantial word derivation
grade D:	-dɛ	subjective word derivation
a-typical:	-ɛɛɛ	plural augmentative
	-le	'a lot of' (?) meaning and historical origin unclear

7.4.3.1 THE GRADE A SUFFIX FORM -ε

The suffix form -ε occurs after nominal and verbal stems in the objective word derivation.

tann-i ki / tann-ε	‘the desert date (<i>Balanites aegyptiaca</i>)’
laac-i ki / lac-ε, lacce	‘the tail’
daag-ɔ ʰgɔ / daag-ε	‘the mat’
jaw-ɔ ʰgɔ / jaw-ε	‘the bracelet’
dud-al ʰgal / dud-ε	‘the Koran school’
ʰges-a ba / ges-ε	‘the field’
yit-ere ʰde / git-ε	‘the eye’
hɔɔd-ere ʰde / kɔɔd-ε	‘the star’
hɔɔ-re ʰde / kɔh-ε	‘the head’
naw-re ʰde / nabbe, naw-ε	‘the pond, lake’
saa-re ʰde / ceh-ε	‘the village (not of Fulbe)’
waa-re ʰde / bah-ε	‘the beard’
haw-re ʰde / kaf-ε	‘the sheaf, bundle of grass’
sew-re ʰde / cef-ε	‘the herd’
hɔls-ere ʰde / kɔlc-ε	‘the hoof’

The stem final consonant alternations of the above examples are discussed in section 3.2.

Nouns which are derived from verbs denote the unmarked or cognate objects of these verbs, or the cognate state when the related verb is inchoative. The singular and plural forms use the same suffix grade because the semantic relation between the noun and the related verb is not influenced by number. More examples can be found in the descriptions of singular classes which take the plural 'DE class.

ʰjar-am ɖam / jar-ε	‘the drink’	yar-de	‘to drink’
tay-de ʰde / taj-ε	‘the part’	taj-ude	‘to cut into pieces’
fim-re ʰde / piɖ-ε	‘the tie; wedding’	fiɖ-ude	‘to tie, to knot’
nim-re ʰde / niɖ-ε	‘darkness’	niɖ-ude	‘to be dark’
deg-al ʰgal / deg-ε	‘descent, feast of entering the Inner-Delta’	regaa-de	‘to enter, to descend’
goll-ε	‘work’	goll-ude	‘to work’
kedd-ε	‘remains’	hedd-aade	‘to remain’
yaaf-ε	‘pardon, forgiveness’	yaaf-ude	‘to forgive’
yaag-ε	‘reverence’	yaag-aade	‘to respect, to admire’
semt-ε	‘reserve’	semt-ude	‘to be timid, reserved’

7.4.3.2 THE GRADE B SUFFIX FORM -je

The suffix form -je marks the associative word formation. It combines with stems that are full words.

maa^hgoroo-wi ki / maa^hgɔrɔɔ-je	‘the mango tree (<i>Magnifera indica</i>)’
silaamuu-wi ki / silaamuu-je	‘the sword, sabre’
hum^mbee-wɔ ʰgɔ / kum^mbee-je	‘the paddle’ < Sorogo kumbe

sulee-wa ⁿ gɔ / sulee-je	‘the shoe’ < French soulier
taadamaa-re ⁿ de / taadamaa-je	‘the cloth, wrapper’
sagii-re ⁿ de / cagii-je	‘the basket’ < Bambara sagi
bala-wal ⁿ gal / balaa-je	‘the shoulder’
ⁿdaw-wal, ⁿdawu-wal / ⁿdawuu-je	‘the ostrich’ < * ⁿ dawu ⁿ gu

The suffix **-je** of the associative word formation always replaces the suffix of the singular noun. This singular noun class suffix is without exception also the suffix form of the associative word formation (grade B).

7.4.3.3 THE GRADE C SUFFIX FORM **-de**

The suffix form **-de** is found in the following words formed using the circumstantial word derivation (grade C).

pem^mbor-ki / pem^mbor-de	‘razor’
labor-ki / labor-de	‘razor’
remir-gɔ / demir-de	‘agricultural tool’
fijir-de / pijir-de	‘playground’
lawlor-de / lawlor-de	‘bowl for milk’
ley-di / ley-de	‘ground, earth, land’
ⁿgenⁿdi / gen-de	‘village’ (place for living < yæet- ‘live’)
ɲor-gɔ / ɲor-de	‘winnow’
ⁿgay-ka / gay-de	‘hole; dug by someone’
ɸirdu-gal / ɸirdu-de	‘big calabash for milking’
natir-gal / natir-de	‘camera’
daŋ-ki ki / dan-de	‘hangar; wind-break’

The fact that the above words are derived using the circumstantial derivation is indicated by the occurrence of the circumstantial extension **-ir-** or **-r-** in the stem and by the semantic relation between the above nouns and the related verb stems. There is an element of “purpose, intention, manner, mode” present in the semantics of these words.

7.4.3.4 THE GRADE D SUFFIX FORM **-de**

The following nouns are derived using the subjective word derivation (grade D).

cay-ki ki / cay-de	‘thorny tree (<i>Acacia albida</i> Delile)’
pallaa-ⁿdi ⁿdi / pallaa-de	‘lizard’
hunu-kɔ kɔ / kunu-de	‘mouth’
juŋ-ⁿgɔ ⁿgɔ / juu-de	‘hand and underarm’
waa-ⁿgɔ ⁿgɔ / ban-de	‘lance’
ɸer-ⁿde ⁿde / ɸer-de	‘heart’
yɔl-ⁿde ⁿde / jɔl-de	‘absence, lack’
kɔy-ⁿgal ⁿgal / kɔy-de	‘foot’

Plural nouns with the class suffix **-dɛ** can be analyzed as participles. The related verbs and their deverbal and semantic derivation are given in the description of the corresponding singular classes. The participles given in the examples above have developed into separate lexical items. A semantic shift has given these participles an independent meaning.

7.4.3.5 THE SUFFIX FORM **-ɛɛɛ**

The suffix form **-ɛɛɛ** occurs only as the plural marker of nouns which combine in the singular with a suffix of the NGAL class with an augmentative meaning. The plural suffix **-ɛɛɛ** therefore expresses an augmentative meaning also, besides its plural meaning. This plural suffix **-ɛɛɛ** can denote both animate and inanimate augmentative nouns.

pellal / pelleɛɛ	‘large group; age group’
cuural / cuureɛɛ	‘big house, big room’
caggal / caggeɛɛ	‘large back’ (pejorative)
dɔŋ^ɔgal / dɔŋ^ɔgeɛɛ	‘large load’
nii^ɔgal / nii^ɔjeɛɛ	‘big tooth’
gudal hinere / gudeɛɛ hinere	‘big nostril’
biilal / biileɛɛ	‘large corral’
ned^ɔdal / ned^ɔdeɛɛ, ned^ɔdɛ	‘large person’

Sometimes an alternative plural with the regular noun suffix of the 'DE class is also available. The hypothesis is that the augmentative meaning of the plural suffix **-ɛɛɛ** is attributed to an underlying morpheme ***-al**, a suffix allomorph of the NGAL class which is still present in the plural from **-ɛɛɛ**. The assimilation of the vowel [a] to the vowel [ɛ] in the following syllable occurs more often. The etymology of the suffix **-ɛɛɛ** is that the suffix ***-al** combined with the regular plural suffix **-ɛ** (***-alɛ > -ɛɛɛ**). Lengthening of the vowel is perhaps caused by the analogy of the associative word derivation which has a full word as its stem. The long vowel in the class suffix of the singular is lengthened which resulted in a long vowel in the penultimate syllable of words with two suffixes. An argument for the hypothesis that the suffix ***-ɛɛɛ** is a combination of the singular NGAL suffix with the plural 'DE suffix is the fact that the plural suffix **-ɛɛɛ** only forms the plural of augmentative nouns in the NGAL class and the fact that the plural suffix **-ɛɛɛ** in itself has an augmentative meaning.

7.4.3.6 THE SUFFIX FORM **-le**

The suffix **-le** occurs in all suffix grades, i.e. with all types of nominal word derivation. Its distribution is similar to that of the suffix **-li**. The consonant [l] appears also often in stem final position in the singular noun. The following words are examples of the plural formation with the suffix **-le** in grade A nouns.

hen^ɔdɔl-dɛ ^ɔdɛ / ken^ɔdɔl-le	‘the little ball at end of distaff’
mesel-al ^ɔgal / mesel-le	‘the needle’
gabɓulal ^ɔgal / gabɓule	‘the large cheek’
kojjulal ^ɔgal / kojjule	‘the big occipital hole’
luurde ^ɔdɛ / duule	‘the cloud’

The consonant [l] in the last three plurals can be either part of the stem or part of the suffix.

The suffix form **-le** added to full nouns always results in the suffix form **-eele** (see 7.4.3.4 above). There is a similarity in meaning between the suffix **-le** and the suffix **-li** which also expresses diversity of the plural. The following words are examples of the plural formation with the suffix **-le** in grade B nouns.

gaw-ri / gaf-eele	‘millet / different kinds of millet’
niiri / niir-eele	‘cooked rice / different kinds of cooked rice’

The suffix **-le** regularly occurs as the plural of circumstantial noun derivations. The following words are examples of the plural formation with the suffix **-le** in grade C nouns.

naaw-ki / naaw-le	‘armpit’
mbod-di / bɔl-le	‘snake’
dew-gal / dew-le	‘marriage, marital bond’
cay-gal / cay-le	‘goose’
ceer-gal / seer-le	‘divorce, separation’
fed-de / pel-le	‘group; age group; organisation’
hɔg-gɔ / kɔw-le, kɔgɛ	‘corral fenced off with thorn-bush’
jɔkkɔr-de / jɔkɔl-le, jɔkkɔ-le	‘joint’

A few nouns which take the suffix **-le** are not directly the plural of a circumstantial noun derivation, but they are related to such words.

jii-le	‘view’	yii-de	‘to see’
jaw-le	‘livestock; possessions, wealth’	jaw-di	‘wealth’
pal-le	‘weft, weft/woof threads’		

The suffix form **-le** is derived from nouns with a stem final [l] where this consonant has been lost in the singular due to different types of assimilation and consonant change. Perhaps this suffix form **-le** is becoming a marker of the circumstantial derivation. This could explain the frequent occurrence of the suffix **-le** in the circumstantial word derivation. The following forms in the Maasina dialect and the Aadamaawa dialect (Mohamadou 1985) show that this process can be observed across dialects and in alternative plural formation in Maasina.

Maasina		Aadamaawa
fijir-de / pijir-de	‘playground’	fijir-de / pijir-le
naaw-ki / naaw-le, naaw-de	‘armpit’	naf-ki / naf-de

The suffix **-le** also occurs in the plural forms of nouns derived using the subjective derivation. The suffix form **-de** of these grade D words is formally identical with the subject concord. What remains to be explained in the following grade D words is why the suffix is identical to the subject concord in the singular, but not in the plural where the suffix is **-le**.

jaaw-ⁿgal / jaaw-le	‘guinea fowl’
diw-ⁿgal / diw-le	‘load’
jon-ⁿde / jon-le	‘chair, place to sit; head quarter’
daw-ⁿgal / daw-le	‘raven’
waam-ⁿga / baam-le	‘hill’
wii-ⁿde / bil-le, bii-le	‘corral in the bush
wiin-ⁿde / biil-le	id.
kadd-u-ⁿgal / kadd-u-le	‘garment, article of clothing’
dabb-u-ⁿde / dabb-u-le	‘cold season (November-February)’
naag-u-ⁿde / naag-u-le	‘request’
wab6-u-ⁿga / gab6-u-le	‘cheek’
jiiw-^{ɔɔ}-ⁿde / jiiw-^{ɔɔ}-le	‘rainy storm (rain with a lot of wind)’
wiif-^{ɔɔ}-ⁿga / biif-^{ɔɔ}-le	‘wing’
wipp-^{ɔɔ}-ⁿga / bipp-^{ɔɔ}-le	‘wing’
yurm-^{ɛɛ}-ⁿde / jurm-^{ɛɛ}-le	‘pity, compassion’
hit-aa-ⁿde / kit-aa-le	‘year’
pam-aa-ⁿde / pam-aa-le	‘debt’
yan-aa-ⁿde / jan-aa-le	‘grave/graveyard’
fɔɔf-aa-ⁿga / pɔɔf-aa-le, pɔɔf-aa-li	‘breath, respirations’

The stems of subjective word derivations (grade D) often contain verbal markers such as -u- (active voice), -aa- (passive voice complete), -ɛɛ- (passive voice incomplete) or -ɔɔ- (middle voice incomplete). The roots of most of these nouns also exist as verbal stems. Nouns derived in grade D often have alternative plural formations, i.e. with the suffix -le and also with the subject concord suffix -de.

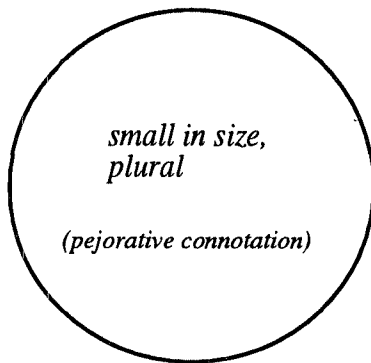
ⁿgeeⁿdi, ⁿgeenⁿdi / gelle, geelle, gende	‘village’
dɛŋⁿgal, dɛmⁿgal / demle, demde, delle, dende	‘tongue, language’
labaⁿgal / labaale, labaade	‘bridle’
janⁿde / jandɛ, janⁿdeele	‘study’
huuⁿde / kulle, kudde	‘thing’

The alternative plural formations with both the circumstantial suffix -le and the proper subjective suffix -de give the impression that -le is not the regular suffix of the subjective derivation. The hypothesis is that the suffix -le is built on a morpheme -l- possibly expressing diversity (on analogy with the [l] in the suffix -li). Some reinterpretation of the suffix -le appears to be going on. This is also shown by cross-dialect comparison of words that take the suffix -de in one, but -le in another dialect. The exact direction in which these changes take place is not yet clear. Possibly -le is being reinterpreted as the new suffix marker for the circumstantial derivations in the 'DE class. The exact synchronic relation between the suffix forms -le and -de is difficult to explain since plurals of both the circumstantial and the subjective derivations combine with the -le and -de suffixes (in Grades C and D). One possible outcome is that the suffix -le in the circumstantial derivation will be replaced by the suffix -de which is identical to the subjective derivation. This should explain the exception of the occurrence of the suffix -le and the suffix -de in

the circumstantial derivations. This seems to be the case in the Maasina dialect where the unproductive circumstantial derivation **naawki/naawle** ‘armpit’ ‘with which to carry under the arm’ has the circumstantial derivational suffix **-le**, but the productive derivation **fijirde/pijirde** ‘playground’ ‘place for playing’ has the suffix **-de** from the subjective derivation in the plural. The words are derived from the verb stems **naaf-** ‘carry under the arm’ and **fij-** ‘play’. Another possible outcome is that more circumstantial derivations will replace their suffix **-de** with the suffix **-le**, so that **-le** becomes the marker of the circumstantial derivation. At the same time, the subjective derivations will replace their suffix form **-le** with **-de** so that **-de** becomes the marker of the subjective derivation. This seems to be the case in Aadamaawa where the suffix **-le** occurs in the productive circumstantial word derivation **fijirde/pijirle** ‘playground’. The word **naf-ki/naf-de** ‘armpit’ combines in Aadamaawa with the regular suffix **-de** of the subjective and circumstantial word derivations.

7.4.4 THE KOY CLASS

The KOY class categorizes nouns with a diminutive and plural meaning. The diminutive class NGEL always forms its plural with the KOY class. The diminutive meaning can be applied to animate and inanimate nouns. The KOY class has the same connotations of disparagement and affection as the singular diminutive class. The semantic content of the KOY class is represented in the following figure.



The nouns in the KOY class take the initial consonant from the prenasalized series. The suffix form of the KOY class is usually in the same grade as the singular suffix form. The singular and plural forms are formed using the same type of word derivation. The following words are regular objective word derivations which contain the grade A suffix form **-oy**.

nal-el / nal-oy	‘little calf’	nal-ε / nalb-i	‘calf’
dewt-el / ⁿdewt-oy	‘little book’	dewt-εε / dewt-ε	‘book’
jaw-el / ⁿjaw-oy	‘little bracelet’	jaw-ɔ / jaw-ε	‘bracelet’
powel / powoy	‘little hyena’	fow-ru / pobb-i	‘hyena’
pobbel / pobby	id.		

The last example shows that the plural diminutive form can be based on either the singular or plural stem when stem final consonant alternation occurs in the basic word. Reanalysis has led to the different possible forms of the stem.

The following examples are grade B nouns combining with the suffix form **-woy**.

cagi-wel / cagi-woy	‘little basket’	sagii-re / cagii-je	‘basket’
duko-wel / ⁿdukowoy	‘little dispute’	duk-ɔ / dukoo-ji	‘dispute’
haala-wel / haala-woy	‘little speech’	haal-a / haalaa-ji	‘speech’

When the plural of a noun is formed by the addition of the suffix **-ji**, then the diminutive and augmentative forms are also formed by the addition of the grade B suffix to the stem which is the full singular noun, as in the examples **ⁿdukowoy** ‘little disputes’ and **haalawoy** ‘little words’.

The following examples are grade C nouns combining with the suffix form **-koy**.

jaŋⁿgir-gel / ⁿjaŋⁿgir-koy	‘(little) writing slate’	jaŋⁿgirgal / ⁿjaŋⁿgirde
tum^mbu-gel / tum^mbu-koy	‘(little) calabash recipient’	tum^mbude / tum^mbude
mijiraa-gel	‘(little) younger sibling’	mijiraaɔ / mijiraaɓe
jaw-gel / jawkoy, ⁿjaw-koy	‘(little) ram’	ⁿjaw-di-ri / jaw-di

Diminutive plural nouns in grade C often use the atypical **-loy** suffix which is discussed in section 7.4.4.1.

The following nouns combine with the suffix form **-koy** which marks the subjective word derivations (grade D).

daŋ-ⁿgel / ⁿdaŋ-koy	‘little he-goat’	ⁿdam-ⁿdi / dam-di	‘he-goat’
ɓiŋ-ⁿgel / ɓik-koy	‘little child’	ɓid-ɔɔ / ɓiɓ-ɓe	‘child’
juŋ-ⁿgel / juu-koy	‘little hand, arm’	juŋ-ⁿgɔ / juu-de	‘hand, arm’

More examples of the regular formations in the **KOY** class are given in the description of the singular diminutive class **NGEL** (see section 7.2.10).

7.4.4.1 THE SUFFIX FORM **-loy**

The atypical suffix form **-loy** occurs only in the diminutive plural form of nouns which combine with one of the plural suffixes **-le** or **-li** in the same nominal paradigm. The consonant [l] recurs in the nominal paradigm. The distribution of this consonant [l] has different patterns. Sometimes the consonant [l] only appears in the plural suffix forms, sometimes it appears both in the plural and the singular suffix forms. The consonant [l] appears in a certain order on an implicational scale in nouns formed with the plural, diminutive, and augmentative classes.

'DE	'DE, 'DI	KOY	NGEL, NGAL
augmentative	basic	diminutive	diminutive, augmentative
plural	plural	plural	singular
-ɛɛ-l-ɛ	← -l-ɛ	← -l-oy	← -l-el
	-l-i		-l-al

This implicational scale is exemplified below. There are forms where the consonant [l] only appears in the basic plural form, as in the following examples.

labaⁿgal / labaa-le, labaa-dɛ	‘bridle’	labaⁿgel / laba-koy	‘small bridle’
dɛŋⁿgal / dɛlle, dɛndɛ	‘tongue’	dɛŋⁿgel / dɛŋkoy, dɛŋⁿgoy	‘uvula’

The plural forms **labaadɛ** ‘bridles’ and **dɛndɛ** ‘tongues’ are innovative plural forms. These forms replace the irregular suffix **-le** with the suffix **-dɛ**. This replacement appears to be motivated by paradigm levelling. The result is a nominal paradigm with only regular grade D suffix forms.

The consonant [l] only occurs in the plural suffix forms **-le**, **-li**, and **-loy**, but not in the singular noun of the nominal paradigm.

cay-gal / cay-le	‘goose’	caygel / cayloy	‘little goose’
hitaaⁿdɛ / kitaa-le	‘year’	kitaⁿgel / kitaloy	‘little year’
diwⁿgal / diwle	‘load’	diwⁿgel / diwloy	‘little load’
ʔillaⁿgɔ / ʔillaali	‘sneeze’	ʔillaⁿgel / ʔillaloy	‘little sneeze’
ⁿgeeⁿdi / gelle	‘village’	geŋⁿgel / gelloy	‘little village’

Sometimes alternative forms indicate that a reanalysis of stem and suffix forms is taking place.

dɔŋⁿgal / dɔlle, dɔŋⁿge	‘(little) load’	dɔŋⁿgel / ⁿdolloy, ⁿdɔŋⁿgoy
wuugaaⁿdu / buugaali	‘(little) pigeon’	buugalel / ^mbuugaloy; buugawel
huuⁿdɛ / kulle	‘(little) thing’	kullel / kulloy or kuŋⁿgel / kuŋkoy

The consonant [l] which occurs in the above examples does not occur in some variant forms of these words. The singular noun **buugalel** ‘small pigeon’ has a reanalyzed form **buugawel** with a grade B suffix. The plural form **dɔlle** ‘loads’ has an alternative form **dɔŋⁿge** reanalyzed with a grade A suffix where the part [ⁿg] of the singular suffix is reinterpreted as part of the stem. The diminutive of **huuⁿdɛ** ‘thing’ takes either the singular form ***hun-** as a regular grade D stem or the plural stem ***hull-** as a regular grade A stem. The consonant [l] appears in all plural, diminutive, and augmentative formations in the following paradigms. Only the normal size singular form does not show a (stem final or suffix initial) consonant [l].

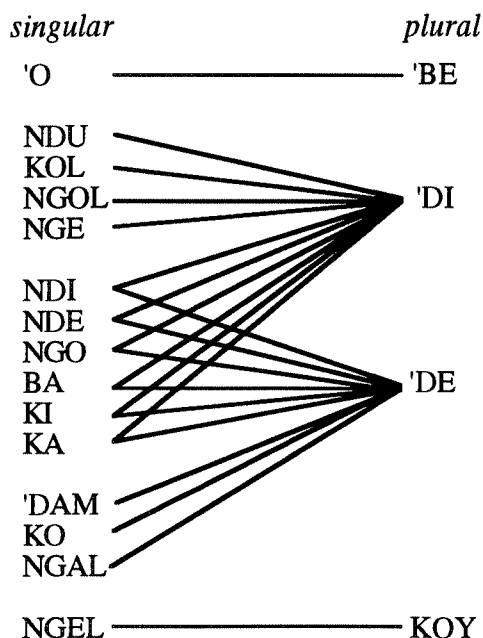
grade A:	moorol / moolli	‘braid, plait’	moollel / mooloy or moollel / moolloy
grade B:	suka / sukaafɛ	‘child’	cukalel / cukaloy
	wuugaaⁿdu / buugaali	‘pigeon’	buugalel / ^mbuugaloy, buugawel
grade C:	naawki / naawle	‘armpit’	naawlel / naawloy
	wuddu / gulli	‘navel’	gullel / ⁿgullo
	hojjudu / kojju	‘occipital hole’	kojjulel / kojjuloy
	fedde / pelle	‘age group’	pellel / pelloy

grade D: weeⁿdu / beeli	'pool, pond'	beelel / ^mbeeloy
wiiⁿde / biille	'corral'	biilel / ^mbiiloy
funⁿdu / bulli	'pit, well'	fullel / fuloy
fooⁿdu / pooli	'bird'	poollel / pooloy
waḅḅuⁿgɔ / gaḅḅule	'cheek'	gaḅḅulel / gaḅḅuloy
fedeeⁿdu / pedfeeli	'finger'	pedfelel / pedfeloy
faaⁿdu / paali	'gourd'	paalel / paaloy
wutaaⁿdu / butaali	'cob of millet'	butalel / butaloy, ^mbutaloy
yeeⁿdu / jeeli	'ant-eater'	jeelel / ⁿjeeloy

The hypothesis is that [l] is part of the plural formation because the implicational scale shows that the consonant [l] appears first in the plural formation and then in the diminutive and augmentative formations and because this consonant [l] does not occur in the suffixes of any other class. This consonant [l] has consequently been reanalyzed as stem final which has resulted in its re-appearance in the diminutive and augmentative formations.

7.5 SINGULAR / PLURAL PAIRING

The pairing of the singular and plural classes which occurs in Maasina is represented in the following figure. The 'DUM and KAL classes are excluded from the figure because the nouns of those classes never pair off with a plural form. Lines represent the occurrence of a singular/plural pair of the classes given at both ends of the connecting lines.



Some classes combine with only one particular plural class. Many singular classes can pair with two possible plural classes. The distribution of these two plural classes is not random (cf. section 7.4). The plural can be chosen on morphological grounds: certain classes have a fixed plural class. The plural can be chosen on semantic grounds when two plural classes are possible. The 'DE class forms the plural of inanimate nouns and the 'DI class forms the plural of animate nouns. The plural can also be chosen on derivational grounds: the plural

suffix is *-ji* when the plural is formed by the addition of a suffix to the full singular noun. The morphological, semantic, and word derivational motivations for the choice of the plural class can also apply at the same time in a particular case. The following generalizations can be made concerning the choice of the plural classes in the Fulfulde of Maasina.

First, the following fixed singular/plural pairs are morphologically motivated.

NDU - 'DI
 NGU - 'DI
 NGOL - 'DI

There are a number of fixed singular/plural pairs where no semantic motivation can be found. The formation of the above mentioned singular/plural pairs seems to be morphologically motivated. There is a phonological regularity in the vowel of the singular and plural forms of these classes. The singular classes which only combine with the plural 'DI class are all formed with a [+ATR, +round] vowel.

Second, the following fixed singular/plural pairs are both morphologically and semantically motivated.

NGAL	- 'DE	augmentative nouns
NGEL	- KOY	diminutive nouns
NGE	- 'DI	animate nouns
KOL	- 'DI	one animate noun
'DAM	- 'DE	one inanimate noun
KO	- 'DE	one inanimate noun

The above mentioned fixed singular/plural pairs show a regular correspondence between the meanings of the singular and plural noun in the following semantic features: animate, inanimate, diminutive, and augmentative.

Third, there is a semantic motivation for the choice of the different plural classes within the nouns which use the concord of the 'O class.

'O	- 'BE	{ ʃe , ʔen }	persons
'O	- 'DI	{ -ji }	other (animals and things)

The plurals of the 'O class are determined by the semantic content of the nouns. Nouns denoting persons take the plural 'BE class. Other nouns, i.e. loan-words or Fulfulde words which changed their concord to that of the 'O class and which do not denote persons, take the plural suffix *-ji*. Loan-words which denote persons sometimes have two alternative plural suffixes *-ʔen* and *-ʃe*. The vowel initial suffix *-i* is only found in the 'O class as the plural suffix of words that shifted their concord from the NGU class to the 'O class. The singular suffix of these words is still a suffix from the NGU class.

Fourth, there is a semantic motivation for the choice of the plural class of the following singular classes.

		animate	inanimate
NDI	-	'DI,	'DE
NDE	-	'DI,	'DE
BA	-	'DI,	'DE
KI	-	'DI,	'DE

The plural suffix of the rest of the non-human singular noun classes which combine with either the 'DE or the 'DI plural class is determined by the semantic content of the noun. Exceptions to this generalization are a number of words denoting small mammals, reptiles, fish, and insects. These animals take a suffix of the 'DE class because they bite or sting which gives them a pejorative connotation. The hypothesis is that the pejorative connotation of the 'DE class plays a role in the choice of the inanimate plural class for these words.

Fifth, nouns in the following classes normally take the suffix of the 'DE class on the basis of the semantic distinction animate versus inanimate. The semantically motivated plural 'DE class is often replaced by *-ji*.

		regular plural inanimate	general innovative plural	irregular plural (noises) large amount of (?)
NGO	-	'DE,	{-ji},	{-li}
KA	-	'DE,	{-ji}	
NDE	-	'DE,	{-ji}	

Many nouns combine with the plural suffix *-ji* which is the only plural suffix which is added to the full singular noun. A noun to which the plural suffix *-ji* is added contains then two suffixes: the singular suffix occurs in the stem. This added suffix *-ji* has lost its specific animate meaning of the 'DI class.

In conclusion the motivations for the choice of the plural class can be summarized as follows:

1. Morphologically fixed pairs: NDU, NGOL, NGU take plural 'DI class.
2. Semantic motivation related to the meaning of the plural class:

if augmentative noun,	then plural 'DE class
if diminutive noun,	then plural KOY class
if person,	then plural 'BE class
if inanimate noun,	then plural 'DE class
if stinging or biting animate noun,	then plural 'DE class
if animate noun,	then plural 'DI class

This system is disturbed by the suffix form *-ji* and *-li* of the 'DI class. The suffixes *-ji* and *-li* are also used as the plural for loan-words because they behave differently from other plural formations in that they are added to the full singular noun. They do not replace the singular suffix like other plural suffixes.

The following meanings are attributed to the plural classes based on the distribution of the plural classes.

'DE	plural, augmentative, pejorative (danger), inanimate
'DI	plural, animate
KOY	plural, diminutive, pejorative (low esteem)
'BE	plural, persons

Not all meanings attributed to one plural class are always present in each occurrence of a form in that plural class. A word like **cɔfal/cɔfɛ** 'chicken' takes the plural 'DE class because the augmentative meaning of the large birds in the NGAL/'DE classes. A word like **yaare/jahe** takes the plural 'DE class because a scorpion can give a nasty sting which gives this word pejorative connotations. A word like **laɓi/laɓɛ** 'knife' takes the plural 'DE class because of its inanimate meaning. The plural 'DI class occurs in **suudu/cuudɪ** 'house' as a morphologically motivated plural because the NDU class always combines with the plural 'DI class. The special form **-ji** has a general plural meaning as plural of loan-words. It often expresses the meaning "different kinds of", e.g. in the plural of **jiiri** 'staple food, meal' which is **jiiriiji** 'different kinds of meals, different kinds of staple food'. The animate meaning of the 'DI class can be found in the many plural forms of animal names like **puccu/pucci** 'horse'. The nouns in the KOY class always have the diminutive meaning. The word **ɓidɔɔ** is preferred in Maasina because the pejorative connotation of the diminutive is present even in **ɓiŋⁿgel/ɓikkoy** 'child, baby'. A noun like **dewelⁿdewoy** 'girl, little woman' also has a pejorative connotation according to my consultants. The nouns in the 'BE class like **nedɔɔ/yimɓɛ** 'person/people' always combine both meanings of the 'BE class: plural and person.