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Chapter 1

Counting mass nouns in Guébie

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This paper contributes to the growing body of work on countability properties of nouns across languages by investigating the three-way countability distinction in Guébie, an Eastern Kru language spoken in Southwest Côte d'Ivoire. Guébie distinguishes three core categories of noun, which we call *true mass, count*, and *countable mass nouns*, and possesses a singulative suffix which converts countable mass nouns into count nouns. We use a mereological model to capture this three-way distinction, and the effects of the singulative suffix.

1 Introduction

This paper investigates the countability properties of nouns in Guébie, an Eastern Kru language spoken in Southwest Côte d'Ivoire. Guébie distinguishes three core categories of noun, based on number marking. We adopt a mereological model based on properties of cumulativity and divisibility to account for the behavior of these nouns. Additionally, we situate Guébie's system in the emerging typology of countability distinctions cross-linguistically.

Guébie is an endangered Kru language spoken by no more than 7,000 speakers in Côte d'Ivoire. There is one known monolingual speaker, while other speakers are bilingual in Guébie and French, and often other neighboring Kru languages. The data presented here was collected over the past five years in Sande's work with the Guébie community (**Sande:2017**). The specific forms in this paper have each been confirmed by at least two male speakers, ages ∼30 and ∼40.

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In section 2 we present the morphological number marking and syntactic distribution facts for the three categories of nouns in Guébie. Section 3 lays out a semantic analysis of the three degrees of countability in Guébie, based in a mereological approach. Section 4 briefly situates Guébie within the growing typology of number marking, and section 5 concludes.

2 Guébie number marking

In this section we show that Guébie distinguishes three noun categories based on number marking:

1. Count nouns
2. True mass nouns
3. "Countable" mass nouns

The diagnostics for these three categories are based primarily on their compatibility with Guébie's number morphology: the plural marker (/-a/ or /-i/), and the singulative marker (/-je/ or /-ɓə/). The two plural markers and two singulative markers are allomorphs and do not differ in meaning (**Sande:2017**).[1]

2.1 Count nouns

Count nouns in Guébie have a singular individual interpretation in their bare form. These include words for humans, large animals, and items that typically do not come in groups, i.e. [ŋ^{w}ɔnɔ$^{4.4}$] *woman*, [ɓə^{31}] *plate*, [mɛɔ$^{3.1}$] *tongue*.[2] Bare count nouns cannot have a plural or substance interpretation. This is shown in (1), where the bare form of [ɓə^{31}] *plate* cannot be predicated on a plural subject.

(1) *liene$^{3.3.1}$ ɛja$^{2.3}$ lieko$^{3.3.1}$ ɓə^{31} mɔ^{1}
DEM.PRO.PROX with DEM.PRO.DIST plate be.EMPH
Intended: 'This thing and that thing are plate(s).'

[1] The two singulative markers do not seem to differ in meaning, and there are phonological traits which explain their distribution. However, one speaker expresses an intuition that nouns that take /-je/ are often small, while nouns that take /-ɓə/ are often large and/or round. However, this intuition does not hold up across the collected data. More work will be done in the future to explore this area. If a difference in size is found to be conveyed, a classifier-like analysis of the singular markers might be more appropriate than the one presented here; though see section 4 on how classifiers are semantically similar to the singular marker in Guébie.

[2] Guébie has four distinct tone heights, marked with numbers 1-4, where 4 is high.

These nouns combine directly with the plural suffix (/-a/ or /-i/) to yield a plural reading. Example (2), in contrast to (1), shows that morphologically plural-marked count nouns can be predicated of plural subjects.

(2) liene$^{3.3.1}$ ɛja$^{2.3}$ lieko$^{3.3.1}$ ɓə-i$^{3.12}$ mɔ^{1}
DEM.PRO.PROX with DEM.PRO.DIST plate-PL be.EMPH
'This thing and that thing are plates.'

Table 1 shows a selection of count nouns in their bare form, and with the PL suffix.[3]

Table 1: Count nouns in Guébie

	Singular	**Plural**	**Translation**
	Root	Root-PL	
a.	ɓə^{31}	ɓə-i$^{3.12}$	'plate'
b.	cu^{3}	cu-i$^{3.2}$	'month'
c.	sabala$^{3.3.3}$	sabala-i$^{3.3.3.2}$	'shoe'
d.	ɟak^{w}ɛlɛ$^{2.3.1}$	ɟak^{w}ɛlɛ-ɪ$^{2.3.1.2}$	'tarantula'
e.	mɛɔ$^{3.1}$	mɛɔ-ɪ$^{3.1.2}$	'tongue'
f.	ɡoji$^{3.1}$	ɡoji-a$^{3.1.2}$	'dog'
g.	du^{2}	du-a$^{2.2}$	'city'

Count nouns cannot combine with the singulative suffix, as shown in (3).

(3) ***noun-SG**

a. *mɛɔ$^{3.1}$-ɓə/je^{1}
tongue-SG
Intended: 'A tongue'

b. *ɓə^{31}-ɓə/je^{1}
plate-SG
Intended: 'A plate'

Only the plural form of a count noun can combine with a numeral greater than one, as shown in (4).

[3] Both plural suffixes in Guébie are associated with a level tone 2. When attached to a root, if the root is associated with more underlying tone heights than syllables (e.g. two tone levels on a monosyllabic word as in example a in Table 1), then we see one-to-one association of syllables to tone heights beginning at the left, and any leftover tone heights form a contour together with the plural level 2 at the right edge.

(4) **Numerals only combine with plural-marked count nouns**

a. mɛɔ-ɪ$^{3.1.2}$ ta^{3}
tongue-PL three
'Three tongues'

b. *mɛɔ$^{3.1}$ ta^{3}
tongue three
Intended: 'Three tongues'

c. ɓə-i$^{3.12}$ ta^{3}
plate-PL three
'Three plates'

d. *ɓə^{31} ta^{3}
plate three
Intended: 'Three plates'

Similarly, only the plural form of a count noun can combine with an 'all' or 'many' quantifier, as shown in (5). The translations marked with '#' are impossible interpretations of these utterances.

(5) **Quantifiers only combine with plural-marked count nouns**

a. ɓə-i$^{3.12}$ aɓa$^{4.2}$
plate-PL all
'all the plates', #'all the plate'

b. ɓə-i$^{3.12}$ ɓutugba$^{3.1.1}$
plate-PL much
'many plates', #'much plate'

c. *ɓə^{31} aɓa$^{4.2}$/ɓutugba$^{3.1.1}$
plate all/much
Intended: 'all/much plate' or 'all/many plates'

In sum, count nouns in Guébie act much like count nouns in English. They have a singular interpretation in their bare form and a plural interpretation when combined with plural morphology. In the latter case, they can appear with a numeral greater than one, or with quantifiers 'all, many'.

2.2 True mass nouns

The second class of nouns in countability terms in Guébie are the true mass nouns. These nouns refer to substances, including liquids like *blood, oil*, and those consisting of very tiny particles like *sand* and *salt*.

True mass nouns can only surface in their bare form. Unlike count nouns, mass nouns cannot combine directly with the plural suffix. Additionally, mass nouns cannot combine with the singulative suffix, as shown in Table 2.

Table 2: True mass nouns in Guébie

	Mass	**Plural**	**Translation**	
	Root	*Root-PL	*Root-SG	
a.	dolo$^{1.1}$	*dolo-a, *dolo-i	*dodo-je, *dodo-ɓə	‘blood’
b.	dodo$^{3.2}$	*dodo-a, *dodo-i	*dolo-je, *dolo-ɓə	‘sand’
c.	kpə^{4}	*kpə-a, *kpə-i	*kpə-je, *kpə-ɓə	‘oil’
d.	ɟuru$^{2.2}$	*ɟuru-a, *ɟuru-i	*ɟuru-je, *ɟuru-ɓə	‘salt’

True mass nouns can never combine with numerals in Guébie, as shown in (6).

(6) **Numerals cannot modify bare mass nouns**

a. dodo$^{3.2}$ la^{2} ci-ə$^{2.2}$ ta^{3}
sand of type-PL three
‘three types of sand’

b. *dodo$^{3.2}$ ta^{3}
sand three
Intended:‘three sands’

Unlike count nouns, which cannot combine with quantifiers ‘all, many’ in their bare form (5), bare mass nouns combine with quantifiers (7).

(7) **Quantifiers can modify bare mass nouns**

a. dolo$^{1.1}$ aɓa$^{4.2}$
blood all
‘all the blood’

b. dolo$^{1.1}$ ɓutugba$^{3.1.1}$
blood much
‘a lot of blood’

c. dodo$^{3.2}$ aɓa$^{4.2}$
sand all
‘all the sand’

In sum, true mass nouns never appear with number-marking morphology, and they cannot be modified by numerals. Unlike count nouns, they can be modified by quantifiers in their bare form.

2.3 "Countable" mass nouns

The third class of nouns, which we call *countable* mass nouns, shows split behavior: bare countable mass nouns pattern with mass nouns, while SG-marked countable mass nouns pattern with count nouns.

The countable mass class makes up a large part of the Guébie lexicon, consisting of individuals that typically come in groups. These include insects, small animals, body parts, fruits and vegetables, grains and nuts, stars, ashes, etc.[4]

Like mass nouns, bare countable mass nouns cannot combine directly with the plural suffix, as shown in Table 3.

Table 3: Countable mass nouns in Guébie

	Mass	**Plural**	**Translation**
	Root	*Root-PL	
a.	novi$^{2.3}$	*novi-a, *novi-i	'bees'
b.	kuk^{w}e$^{4.1}$	*kuk^{w}e-a, *kuk^{w}e-i	'ants'
c.	wʊlɛ$^{3.1}$	*wʊlɛ-a, *wʊlɛ-ɪ	'fingers'
d.	ɟe^{3}	*ɟe-a, *ɟe-i	'stars'
e.	ɟa^{31}	*ɟa-a, ??ɟa-i	'coconuts'
f.	troβiə$^{3.2.2}$	*troβiə-a, *troβiə-i	'eggplants'

Again like mass nouns, and unlike count nouns, bare countable mass nouns cannot combine with numerals, but can combine with quantifiers. This is shown in (8)

(8) a. *ɟa^{31} ta^{3}
coconuts three
Intended: 'Three coconuts'

b. ɟa^{31} aβa$^{4.2}$
coconuts all
'All coconut'[5]

Unlike both other classes of nouns, countable mass nouns can combine with the SG suffix to yield a singular individual reading. Just like bare count nouns,

[4] Interestingly, *water* also falls into this class: when it combines with the SG suffix, it refers to a body of water such as a lake. For the present, we set *water* aside, as we are unsure to what extent coercion plays a role.

[5] More data is needed to know whether this has a definite interpretation similar to using a universal quantifier with a mass noun in English, and whether (8b) is interpreted differently than (12a).

these SG-marked nouns cannot be predicated of plural subjects, as shown in (9).

(9) *liəne$^{3.3.1}$ ɛja$^{2.3}$ liəko$^{3.3.1}$ ɟa-ɓə$^{3.1}$ mɔ^{1}
DEM.PRO.PROX with DEM.PRO.DIST coconuts-SG be.EMPH
Intended: 'This thing and that thing are coconut.'

However this SG form can then be pluralized with the /-a, -i/ plural marker, in which case it can surface as the predicate of a plural subject[6], as in (10).

(10) liəne$^{3.3.1}$ ɛja$^{2.3}$ liəko$^{3.3.1}$ ɟa-ɓə-i$^{3.1.2}$ mɔ^{1}
DEM.PRO.PROX with DEM.PRO.DIST coconuts-SG-PL be.EMPH
'This thing and that thing are coconuts.'

Table 4 shows these number marking patterns for a selection of countable mass nouns.

Table 4: Singular and Plural on countable mass nouns

	Mass	**Singular**	**Plural**	**Translation**
	Root	Root-SG	Root-SG-PL	
a.	ɟa^{31}	ɟa-ɓə$^{3.1}$	ɟa-ɓə-i$^{3.1.2}$	'coconut'
b.	troßiə$^{3.2.2}$	troßiə-je$^{3.2.2.1}$	troßiə-je-i$^{3.2.2.1.2}$	'eggplant'
c.	novi$^{2.3}$	novi-je$^{2.3.1}$	novi-je-i$^{2.3.1.2}$	'bee'
d.	kuk^{w}e$^{4.1}$	kuk^{w}e-je$^{4.1.1}$	kuk^{w}e-je-i$^{4.1.1.2}$	'ant'
e.	wʊlɛ$^{3.1}$	wʊlɛ-je$^{3.1.1}$	wʊlɛ-je-ɪ$^{3.1.1.2}$	'finger'
f.	ɟe^{3}	ɟalɪ-je$^{3.1}$	ɟalɪ-je-i$^{3.1.2}$	'star'

Like plural count nouns, PL-marked countable mass nouns (noun-SG-PL) can combine with numerals greater than one and quantifiers, but a noun-SG form cannot. This is shown in (11) and (12).

(11) **-SG-PL mass nouns with numerals**

a. ɟa-ɓə-i$^{3.1.2}$ ta^{3}
coconuts-SG-PL three
'Three coconuts'

b. *ɟa-ɓə$^{3.1}$ ta^{3}
coconut-SG three
Intended: 'three coconut(s)'

[6] See **Marchese:1979** for a 2-way split in other Kru languages between countable nouns that take a plural suffix directly, and countable mass nouns which take -SG-PL suffixes.

(12) **-SG-PL mass nouns with quantifiers**

a. ɟa-ɓə-i$^{3.1.2}$ aɓa$^{4.2}$
coconuts-SG-PL all
'all coconuts'

b. *ɟa-ɓə$^{3.1}$ aɓa$^{4.2}$
coconuts-SG all
Intended: 'all coconuts'

To summarize, bare countable mass nouns pattern with true mass nouns in that they cannot take plural marking or be modified by a numeral. By contrast, the SG marked form of a countable mass noun patterns with count nouns. The SG marked form yields a singular individual interpretation, it can take plural marking, and it can be modified by a numeral (by the numeral one in the noun-SG form, and by any numeral greater than one in the noun-SG-PL form). These properties are summarized in Table 5.

Table 5: Properties of noun types in Guébie

	Indiv. interp.	**-PL**	**N-PL Numeral**	**N Quantifier**
Count	X	X	X	
True mass				X
Countable mass (bare)				X
Countable mass (-SG)	X	X	X	

2.4 Summary

Based on the distribution of singular and plural suffixes as well as numerals, we have seen that there is at least a three-way distinction in countability across nouns in Guébie: count nouns (e.g. 'plate, woman'), countable mass nouns (e.g. 'coconut, finger'), and true mass nouns (e.g. 'blood, sand').

3 Semantics

An analysis of the above data must account for (i) the different distribution and behavior of count nouns, true mass nouns, and countable mass nouns, and (ii) the distribution of SG and its semantic effect (i.e. that it takes a countable mass noun and turns it into a count noun). We assume here that the PL marker in Guébie is analagous to PL marking in languages like English.

3.1 Count nouns vs. true mass nouns

A concrete way to model countability distinctions relies on notions of cumulativity and divisibility.[7] These properties are defined in (13) and (14) respectively.

(13) A noun is cumulative iff it denotes a cumulative predicate.
A predicate *p* is cumulative iff any sum of parts that are *p* is also *p*. (Deal 2017:128)

(14) A noun is divisive iff it denotes a divisive predicate.
A predicate *p* is divisive iff any part of something that is *p* is also *p*. (Deal 2017:129)

Noun denotations that are neither cumulative nor divisive have been termed *quantized* (**Krifka:1989**; **Deal:2017**), while those that are both cumulative and divisive have been termed *homogeneous* (**Bunt:1985**; **Deal:2017**). These properties distinguish English singular count nouns and mass nouns respectively.

For example, consider the count noun "plate". If some thing A can be truly described as a plate, and B can also be truly described as a plate, it does not follow that A+B are a plate. Instead, A+B are truly described as plates. This shows that the English noun "plate" is not cumulative. Likewise, if A can be truly described as a plate, it does not follow that some subpart of A is also a plate. Instead, it would be described as part of a plate. This shows that English "plate" is not divisive.

In contrast, consider the mass noun "sand". If there is some thing A that can be truly described as sand, and B can also be truly described as sand, it follows that A+B are sand. Unlike "plate", the English noun "sand" is cumulative. Likewise, if A can be described as sand, it follows that some subpart of A is also sand. The English noun "sand" is also divisive.

This is summarized in (15) and (16).

(15) English singular count nouns are not cumulative and not divisive (i.e. they are quantized)
   a. A is a plate, and B is a plate, but A+B are not a plate
   b. A is a plate, but any subpart of A is not a plate

(16) English mass nouns are both cumulative and divisive (i.e. they are homogeneous)
   a. A is sand, and B is sand, and A+B is sand

[7] See **Quine:1960**, **Cheng:1973**, **Link:1983**, **Krifka:1989**, **Doetjes:1997**, **Grimm:2012b**, and **Deal:2017**, among others.

b. A is sand, and any subpart of A is sand

We can schematize these properties of count and mass nouns as in (17). The denotation of a quantized noun like "plate" contains only non-overlapping individuals: while individual plates a, b, and c are in the denotation of "plate", their sums and subparts are not. In contrast, the denotation of a cumulative noun like "sand" only contains members that overlap with other members: each member of the denotation of "sand" is a subpart of another member, and shares each of its subparts with another member.

(17) a. ⟦plate⟧ = {a, b, c}
b. ⟦sand⟧ = {ab, bc, ac, abc}

This analysis of the English count/mass distinction extends nicely to Guébie's count nouns and true mass nouns. Just like in English, Guébie's count nouns are quantized (i.e. neither divisive nor cumulative), and its true mass nouns are homogeneous (i.e. both divisive and cumulative). This is schematized in (18).

(18) a. ⟦ɓə^{31} "plate"⟧ = {a, b, c}
b. ⟦dolo$^{3.2}$ "sand"⟧ = {ab, bc, ac, abc}

This analysis allows us to account for the distributional differences of PL between count nouns and true mass nouns: just like in English, PL can only combine with quantized denotations.[8] It also allows us to capture the restriction on numeral modification: numerals can only modify quantized denotations.[9]

3.2 Countable mass nouns and SG

Bare countable mass nouns behave like mass nouns, but when they are marked with the SG suffix, they behave like count nouns. Modeling noun meanings in terms of cumulativity and divisiveness allows us capture this. Just like true mass nouns, countable mass noun denotations are cumulative. For example, arbitrarily

[8] The role of PL is to add sums to the denotation, and thus makes the resulting denotation cumulative. There is debate in the literature about the exact nature of PL (e.g. whether the resulting denotation includes atoms as well as sums; see **Sauerlandetal:2005**, **FarkasdeSwart:2010**), that we do not wish to address here. The Guébie PL data are compatible with analyses that account for English PL.

[9] This assumes that only sets with non-overlapping members (i.e. quantized denotations) can be counted (**Chierchia:1998**; **Landman:2011**). For languages that have PL inflection on nouns that are modified by numerals >1, that PL marking is taken to be either purely morphosyntactic (**Krifka:1989**) or semantically undone by the numeral modification (**Chierchia:1998**).

large groups of coconuts and ants can be referred to with a bare countable mass noun. However, like count nouns and unlike true mass nouns, countable mass noun denotations are not divisive: they contain non-overlapping minimal parts. These properties can be captured by assuming that the denotations of countable mass nouns in Guébie contain both non-overlapping individual members and sums of those individual members. A countable mass noun denotation is schematized in (19), where individual letters *a, b* and *c* represent atomic individuals, such as individual coconuts or ants, and combinations of those letters represent sums of those individuals, such as a sum of two or three individual coconuts or ants.

(19) $[\![ɟa^{31}$ "coconut"$]\!]$ = {a, b, c, ab, bc, ac, abc}

Since these denotations are cumulative, they cannot combine with PL or be directly modified by numerals, just like true mass nouns. They are crucially different from mass nouns, however, in that their denotations do contain non-overlapping minimal parts. This kind of cumulative but non-divisive noun denotation is also found in English (for "fake mass" nouns like *furniture* and *jewelry*) and in "classifier" languages like Chinese and Japanese (see Doetjes 1997; Landman 2011; Deal 2017). 'Furniture' plus more 'furniture' is still called 'furniture' in English (cumulativity), but a sub-part of 'furniture' such as the leg of a chair is not 'furniture' (non-divisive). Just like in Guébie, *furniture* cannot be marked PL (*furnitures) or be directly modified by numerals (*three furniture(s)). We return to the cross-linguistic picture in the following section.

Finally, we propose that this difference is what allows countable mass nouns (but not true mass nouns) to combine with the SG suffix. Specifically, the role of the SG suffix is to take in a countable mass noun denotation like in (19), and remove all non-atomic members. The result is the quantized denotation in (20), which, like the denotation of a count noun, only contains non-overlapping individuals (i.e. individual coconuts or ants).

(20) $[\![ɟa\text{-}ɓə^{3.1}$ "coconut"$]\!]$ = {a, b, c}

Since a SG-marked countable mass noun is now quantized, it can combine with PL marking, just like the quantized bare count nouns. Importantly, SG cannot attach to true mass nouns because their denotations do not contain these non-overlapping minimal parts.

The analysis presented here also allows us to capture the distribution of the quantifiers [aɓa$^{4.2}$] 'all' and [ɓutugba$^{3.1.1}$] 'many'. We propose that these quantifiers can only combine with cumulative noun denotations. This allows these quantifiers to combine with the homogeneous denotations of true mass nouns,

and with the cumulative but non-divisive denotations of bare countable mass nouns, PL-marked count nouns, and SG-PL-marked countable mass nouns. In contrast, these quantifiers cannot combine with the quantized denotations of bare count nouns and SG-marked countable mass nouns.

4 The cross-linguistic picture

We have seen that Guébie has a core three-way countability distinction in its nominal semantics, and that this three-way distinction can be captured in terms of cumulativity and divisiveness. Similar three way distinctions are also found in other languages. For example, in addition to the binary mass/count distinction, English also distinguishes a smaller class of "fake mass" nouns like *jewelry, furniture,* and *footwear*. Welsh (Grimm 2012) has a larger class of nouns that are interpreted plural in their bare form, and require a SG suffix for singular reference. This contrasts with nouns that are interpreted singular in their bare form (count nouns), and those that cannot take the SG suffix (mass nouns).

Other languages appear to only make a two way distinction. For example, "classifier" languages, like Chinese and Japanese, make a countability distinction in terms of divisiveness, but not cumulativity.[10] These languages lack quantized noun denotations; typical count nouns like "plate" are cumulative in these languages, as indicated in (21). Note that this kind of analysis lends itself to an explanation of the typical absence of PL marking in such languages, and that all nouns in such languages require classifiers in numeral modification.

(21) Noun denotations in classifier languages
   a. Individual-denoting nouns (e.g. *plate*): {a, b, c, ab, bc, ac, abc}
   b. Substance-denoting nouns (e.g. *sand*): {ab, bc, ac, abc}

While cumulative but non-divisive noun denotations are commonly attested cross-linguistically, languages differ in how they treat such denotations. In the first place, languages differ in what objects are assigned cumulative, non-divisive denotations. This class is small in English (*furniture, jewelry, footwear* and *mail*, among some others), with most nouns either truly mass or count. Languages like Guébie and Welsh, in contrast, have very large classes of such nouns, consisting

[10] For evidence of countability distinctions in Chinese and Japanese, see **ChengSybesma:1998**, **InagakiBarner:2009**, and **CheungLiBarner:2010**. For an explicit proposal in terms of cumulativity and divisiveness, see **Deal:2017**.

of a wide variety of objects that typically come in groups. Classifier languages like Chinese and Japanese assign all non-substance nouns such denotations.

Second, languages differ in how they allow such nouns to be modified by a numeral. English uses measure words (e.g. *three pieces of furniture*), while Chinese and Japanese have dedicated classifiers. In contrast, Guébie and Welsh have SG suffixes that convert a cumulative, non-divisive noun into a quantized noun.

Finally, while both Guébie and Welsh employ similar strategies for allowing such nouns to be modified by numerals (via a SG suffix), they also show an interesting difference: SG-marked nouns in Guébie can be further pluralized, but are not in Welsh.

5 Conclusion

Guébie shows a core, three-way countability distinction in its nominal semantics, based on number morphology and numeral modification. A singulative suffix takes "countable" mass nouns and turns them into count nouns. We model these distinctions in terms of cumulativity and divisiveness, which are useful concepts for modeling countability across languages.

Acknowledgements

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Abbreviations

DEM	demonstrative	PROX	proximate
DIST	distal	SG	singular
EMPH	emphatic	PL	plural
PRO	pronoun		

Appendix A - List of countable mass nouns in Guébie

		Bare	Bare-SG-PL	Gloss
Body parts				
	a.	wʊlɛ$^{3.1}$	wʊlɛ-je-ɪ$^{3.1.1.2}$	‘finger’
	b.	gala$^{3.3}$	gala-je-i$^{3.3.1.2}$	‘tooth’
	c.	jiri$^{2.3}$	jiri-je-i$^{2.3.1.2}$	‘eye’
	d.	juk^{w}e$^{3.3}$	juk^{w}e-je-i$^{3.3.1.2}$	‘ear’
	e.	ɓɔgɔ$^{3.1}$	ɓɔg^{w}-e-i$^{3.1.1.2}$	‘leg’
	f.	ɲi^{4}	ɲi-je-i$^{4.1.2}$	‘hair’
Fruit and vegetables				
	g.	ɟa^{31}	ɟa-ɓə-i$^{3.1.2}$	‘coconut’
	h.	troɓiə$^{3.2.2}$	troɓiə-je-i$^{3.2.2.1.2}$	‘eggplant’
	i.	dibo$^{2.3}$	ɟiote-je-i$^{2.2.3.1.2}$	‘plantain’
	j.	gbajɔ$^{3.1}$	gbajɔ-je-i$^{3.1.1}$	‘okra’
	k.	ŋatɛ$^{3.1}$	ŋatɛ-je-i$^{3.1.1.2}$	‘yam’
	l.	gbajɪsɔ$^{2.2.3}$	gbajɪsɔ-ɓə-i$^{2.2.3.1.2}$	‘papaya’
	m.	dio$^{3.3}$	dio-ɓə-i$^{3.3.1.2}$	‘pineapple’
Grains/Nuts				
	n.	saka$^{3.3}$	saka-je-i$^{3.3.1.2}$	‘rice’
	o.	g^{w}i^{3}	g^{w}i-je-i$^{3.1.2}$	‘palm grain’
	p.	gʊ^{3}	gʊ-je-i$^{3.1.2}$	‘kola nut’
	q.	dodo$^{2.3}$	dodo-je-i$^{2.3.1.2}$	‘corn’
Animals				
	r.	novi$^{2.3}$	novi-je-i$^{2.3.1.2}$	‘bee’
	s.	kuk^{w}e$^{4.1}$	kuk^{w}e-je-i$^{4.1.1.2}$	‘ant’
	t.	sio$^{3.1}$	sio-je-i$^{3.1.2}$	‘snail’
	u.	popi$^{3.1}$	popi-je-i$^{3.1.1.2}$	‘bat’
	v.	kaŋɪ$^{3.1}$	kaŋɪ-je-i$^{3.1.1.2}$	‘mosquito’
Other				
	w.	ɟe^{3}	ɟalɪ-je-i$^{3.1.2}$	‘star’
	x.	sɪka$^{2.3}$	sɪka-je-i$^{2.3.1.2}$	‘gold’
	y.	gbaɟuk^{w}ə$^{3.2.2}$	gbaɟuk^{w}ə-je-i$^{3.2.2.1.2}$	‘grass’
	z.	kakɔ$^{3.1}$	kakɔ-je-i$^{3.1.1.2}$	‘ember’