Is there a unique category of transnumeral nouns in Foodo (Guang)?

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Aim of the talk

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- analysis of the morphological features of transnumeral nouns, esp. mass nouns, in Foodo (Niger-Congo, Guang)
- their distribution over genders
- morphosyntactic behavior of TN nouns in Foodo
- possible repercussions for the diachronic assessment of the Niger-Congo gender system
 - part of the former DFG funded project (project number: 338110259) on "Noun classification in Niger-Congo between gender and deriflection", PI Tom Güldemann, 2017-2023

Introduction - Foodo

- Niger-Congo, Benue-Kwa, Potou-Tano, Guang
- altogether around 20-25.000 speakers (Plunkett 2009)
- linguistic island inbetween different Gur languages (Kabiye, Lokpa and Tem) and Hausa
- spoken in a relatively small area in Northwest Benin, in the province of Donga near the border to Togo
- migration there appr. 300 years ago



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Introduction - Foodo

- nearly exclusively spoken in the town of Semere
- Semere > sàmíl^uέέ / ι- 'porcupine'
- Zech (1899: 139):
 "Semere ist von einer Lehmmauer und einer dichten Dornenhecke umgeben, …"





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Typological profile

basic word order: SVO

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- head-initial in NP (except genitive)
- tone language with two distinct phonological tones having mainly lexical, but also grammatical function
- productive gender system
 - overt adnominal marking achieved by circumfixation (deriflection)
 - agreement with adjectives, determiners, pronouns, numerals
 - gender cumulative with number
 - semantic and morphological gender assignment

Typological profile

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- Foodo has a very productive, elaborated system of nominal classification
 - 10 nominal form classes and
 - 10 agreement classes
 - nearly perfect match of NF classes on AGR classes, cf. (1.a)
 - except for NF N-.-SFX whose nouns either agree with cl. 8 or cl. 9, cf. (1.b)
- (1)a. Alliterative morphology

b.

	dí- gbá -lì á-gbá-à	dù-ńlé-lì à-ýlé-è	dù- kú à- kú	'a big market' 'some big markets'
•	Deviation			
	ŋ-kól'ò-sé-è	'n- ńlé -è	sù- kú	'some big rivers'
	ǹ-cɔ́-ḿ	'n- ńlé- è	bù- kú	'big water' (Fiedler, f.n.)

What about TN nouns?

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 - 10 agreement classes
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 - except for NF N-.-SFX whose nouns either agree with cl. 8 or cl. 9



Figure 2: Gender system of Foodo (after Plunkett 2009: 116)

- Plunkett (2009) only acknowledges AGR class 9 as including mass nouns and abstract nouns, class 10 for abstract items
 - see also similar views in Williamson (1989) for Proto-Niger-Congo
 - but Snider (1988) indicates for Proto-Guang 3 single class genders, similarly Manessy (1987) – classes 9, 4 and 6
- will be shown that transnumeral nouns can be found in all classes, even though with different regularity

Definition – transnumeral nouns

transnumeral nouns are nouns that are insensitive to number, i.e. they do not enter a singular-plural opposition

"Als nicht-diskrete Ganzheiten konzeptualisierte nominale Inhalte sind transnumeral, d.h. sie sind gegenüber der Opposition Singular vs. Plural mit der Bedeutung "Einheit vs. diskrete Vielheit" indifferent. (Biermann 1982: 229)

"In vielen Sprachen werden bestimmte Nomina transnumeral verwendet, d. h. numerusindifferent; [...] Die Neutralisierung aller Oppositionen bestimmt den Zustand der Nichtindividuiertheit des Nomens." (Iturrioz-Leza and Skopeteas 2004: 1054)

"... is a number-neutral or transnumeral noun that cannot enter into a direct construction with a cardinal numeral." (Rijkhoff 2023: 344)

 term TN nouns applied here exclusively in a formal sense, referring to nouns that only occur in single-class genders

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- definitions refer also to some semantic context of these TN nouns:
 - indifferent wrt. ,Einheit vs. diskrete Vielheit'
 - Nichtindividuiertheit des Nomens

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- cannot occur with cardinal numerals
- point to distinction between count and non-count nouns referring to items in the physical world
 - count noun = one that identifies a unit that can be counted (dog, table) concrete physical objects that are "characterized by a perceptual spatial boundary (i.e. they have a shape) and consist of connected parts (i.e. they have an internal structure) that stay together when the object is moved"
 - mass noun = one that names an entity that comes in mass form and therefore cannot inherently be separated into countable units, at least not without a change in meaning (air, rice) lack a definite spatial outline and are homogeneous entities, i.e. they typically consist of non-individuated units or portions (rather than connected parts) that are all of the same kind, e.g. drops of a liquid or slices of a substance."

(Ghomeshi & Massam 2012: 1-3, Rijkhoff 2023: 343)

- different criteria cited in literature for the distinction between countable and non-countable nouns:
 - shape quality of an item to have a (concrete) spatial outline/border
 - homogeneity the quality of consisting of parts or people that are similar to each other or are of the same type
 - divisibility mass nouns can be divided without loss of integrity
 - cumulativity mass nouns can be accumulated without essential change
 - plurality count nouns can be pluralized, mass nouns not
 - granularity the state or quality of being composed of many individual pieces or elements
 - viscosity quality that some liquids have of being thick and sticky
 - individuation
- the grammatical number feature "transnumeral" is mostly found with noncountable nouns

Definition of the four basic classes of nouns (Grimm 2018: 547)

- substances: "nouns describing entities without any perceptible minimal units"
- granular aggregates (rice, sand): "Nouns describing entities with perceptible units, but which are low-ranking on the other factors such as more consistent shape, but not typically separated from one another and not typically involved in interactions with individual units, ..."
- collective aggregates (ants, cherries): "nouns describing entities with perceptible units and mid-level rankings for the other factors, such as being separated from one another but still connected in some fashion, whether spatially near or functionally united, ..."
- individuals: "Nouns describing entities whose elements are independent from one another, not connected in a regular manner to other elements of the same class, ..."

 \rightarrow Scale of individuation

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additional semantic domains included – abstract nouns

- religious/ philosophical terms
- abstract qualities / characteristics (e.g. beauty)
- feelings, smell
- object/ process/result/instrument nominalization
- events

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- propositions or poissible facts (belief, opinion; cf. Rijkhoff 2023)
- temporal descriptions

Methodology

- investigation based on the lexical database compiled by Gray Plunkett (SIL, Semere) from 1994 to 2007 – I am very grateful for his generosity
- completed by own fieldwork data (2005, 2007)
- thanks also to: Iliassou Yaya Idrissou Zacari Salifou Imolou and all Foodo speakers





Methodology

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- contains 1.460 lemmata (incl. nouns, verbs, adjectives, pronouns, etc.) that refer to multiple forms
- the English glosses count up to 2.653 as my analysis basically draws around the English translation, I take this number as basic for my analysis
- from the 2.653 English entries, 1.502 are marked as nouns, and taken here as basis for analysis

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Methodology

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- from the 2.653 English entries, 1.502 are marked as nouns, and taken here as basis for analysis
- mass nouns extracted from dictionary on basis of their number-insensitivity – this is indicated in database by \ps N:class_x, or by indicating that there is no plural, or by "?"
- followed by a reordering of the nouns according to gender and semantics



Kind of gender	Total number	% of all nouns in database	% of only relevant nouns in database
paired genders:	815	54,26 %	77,99 %
single class genders (TN nouns):	230	15,31 %	22,01 %
gerunds:	435	28,96 %	
unclassified:	22	1,46 %	
Sum:	1.502	100%	(1.045)

- 5 major (thick line) and 7 minor paired genders (dotted lines)
- all 10 agreement classes in Foodo function also as single class genders (to different degrees)



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Gender	Total number	% of all analyzed nouns in database, 100% = 1045	% of all paired genders in database 100% = 815
1/6	308	29,47 %	37,79 %
1/2	200	19,14 %	24,54 %
5/4	145	13,88 %	17,79 %
7/8	92	8,80 %	11,29 %
3/4	45	4,31 %	5,52 %
3/6	7	0,67 %	0,86 %
1/8	6	0,57 %	0,74 %
7/4	5	0,48 %	0,61 %
5/6	2	0,19 %	0,25 %
7/6	2	0,19 %	0,25 %
9/6	2	0,19 %	0,25 %
3/10	1	0,1 %	0,12 %
unclass.	22		
	815		

Distribution of nouns over genders

Gender	Total number	% of all analyzed nouns in database, 100% = 1045	% of all single class genders in database 100% = 230
9 gerunds	4 35		
1	73	6,99 %	31,74 %
7	31	2,97 %	13,48 %
4	24	2,30 %	10,43 %
3	23	2,20 %	10,00 %
5	22	2,11 %	9,57 %
9	22	2,11 %	9,57 %
6	19	1,82 %	8,26 %
10	7	0,67 %	3,04 %
8	6	0,57 %	2,61 %
2	3	0,29 %	1,02 %

Class 1:O- nouns (73)

- NF marking: Ø-.-Ø/SFX
 O-.-SFX (only 7)
- very divers semantics: 2 liquids, 2 substances, 3 vegetation, abstract entities, incl. temporal and locational expressions, humans, proper names (many loan words)
- morphologically driven assignment of nouns
- (2) cíjáà 'hot water'
 ásálà 'tobacco, marihuana'
 bòsòlò-wó-ò 'dust'
 ò-yúl-ó 'cold, coolness, shadow' (>yúúlî 'become cold')

Class 7:KA- nouns (31)

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- NF marking: kA-.-A
- 3 substances, 2 granular aggregates (?), 10 abstract nouns derived of persons, 6 object nominalizations, 7 abstract temporal nouns, other
- (3) kà-púpù 'powder of dried leaves for sauce' ká-sá-à 'dowry'

kà-cànná-á 'friendship ', cf. ɔ̀-cànná-á / à-cànná-á 'friend/s'

Class 4:A- nouns (24)

- NF marking: A-.-SFX
- no clear semantics: 7 substances, 2 vegetation, 1 group of small animals (collective), 12 abstract terms, 2 other
- (4) à-pòòdít⁺-m 'mud'
 à-dá-á 'blood'
 á-bú-nò 'thorny grass'
 à-cáŋgbél-ò 'flock of guinea fowls'

Class 3:KU- nouns (23)

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- ► NF marking: KU-.-U
- no clear semantics: 4 substances, 15 abstract terms, incl. temporal descriptions, 4 object/process nominalizations
- (5) kú-súsùlù-ú 'sweat'
 kò-nyíŋ 'semen, strength'
 kò-sòŋó-ó 'heat'
 kù-pùná-ú 'swelling'

Class 5:DU- nouns (22)

- NF marking: DI-.-LI
- no clear semantics: 1 collective aggregate, 1 vegetation, 1 instrument, 6 abstract qualities, 9 object/process nominalizations (incl. scabies), 4 different abstract items

(6)	dì-dá-lì	'mane (not of horse)'
	dí-tíń-dì	'couch grass'
	dú-kúlíi	'childbirth' > kúlìì 'to give birth'
	dì-bí-dí	'darkness'
	díc⁺ó-ó	'sieve' (AGR 1 or AGR 5)

Class 9:BU- nouns (22)

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NF marking: N-.-SFX (19) BI-.-A (3)

only mass nouns: 9 liquids, 9 substances, 1+1 food stuff, 1+1 abstract

(7)	n-có-m	'water'
	ń-tá-à	'alcoholic drink'
	ǹ-nyúfɔ́-ɔ̀	'flour'
	bí-dé-è	'paste (of food)'

Class 9:BU- nouns – gerunds (435)

(8) bù-kó-nó 'grinding'
bí-já-à 'chasing'
bí-líí-ªm 'going out'

Class 6:I- nouns (19)

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- NF marking: I-.-SFX
- no clear semantics: 7 substances~collective aggregates, 2 food stuff, 1 abstract quality, 2 feelings, 7 object/process nominalizations

(9)	ì-nú-m	'meat'
	ì-ŋmá-ḿ	'hair'
	ὶ-pɔᡝ-ɔᡝ	'sauce'
	ì-súló	'running, speed' < sílì 'to run'

Class 10:TU- nouns (7)

innovation, all abstract derivations with -to-

religious terms, qualities

(10) cèfèlî-t⁺ó-ó 'animism' < Ø-cèfèlí 'animist' (cf. Arab. kufr 'godlessness')
Ø-òkùtú-tó-ó 'boisterousness' < ôkùtú 'boisterous'
à-yámbù-tò-ó 'foolishness' < >-yámbó-ó 'fool'

Class 8:SU- (6)

- deriflection N-.-SFX (substances/collectives, insect, abstract items)
- (11) m̀-bɔ́-ḿ 'money'
 ǹ-kèèli-p⁺ó-ó
 'kapok'

Class 2:BA- (3)

deriflection A-.-A (2 humans: twins, people; sorghum of the muslim)
 (12) à-nyó-ánà 'twins (lit.: two-PL)'

	1	2	3	4	5	6	7	8	9	10
	0	BA	KU	А	DI	YU	KA	SU	BU	TU
Liquids	(x)								Х	
Substances	(x)		(x)	Х	(x)	X	(x)	(x)	Х	
Food stuff		(x)				(x)			(x)	
Granular aggregates							(x)			
Vegetation/cereals/fruits	(x)			(x)	(x)					
Insects						(x)		(x)		
Small animals				(x)						
Body parts				(x)						
Animals										
Humans	(x)	(x)								
Artefactual entities	(x)				(x)					
Locations	Х									
Abstract entities	Х		Х	Х	Х	X	х	(x)	(x)	X
Gerunds									X	

- attested in every AGR class of the language known also from other languages, e.g. Swahili (Contini-Morava 2000, Crisma et al. 2011: 253), but very often overlooked
 - cl. 1: most semantic fields morphologically motivated
 - cl. 9: gerunds, liquids and substances semantically motivated
 - all others: mostly abstract entities unclear motivation
- semantic distribution

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liquids, gerunds	restricted to class 9
substances	attested in classes 4, 6 and 9
abstract entities	attested in 1, 3, 4, 5, 6, 7, 10

- we can infer a scale of entity types in Foodo (adapted from Grimm 2018: 543, cf. (13.a)) with emphasis on TN nouns (13.b)
- (13)a. liquids < foodstuffs < granular aggregates < vegetation/cereals/fruits < insects < small animals < paired/grouped body parts < middle-sized animals < types of people < individuals
 - \rightarrow reflects the accessibility of a unit interpretation
- b. liquids/gerunds < substances > food/granular a. < abstracts < countable nouns vegetation/insects

cl. 9 cl. 9, 4, 5 unclear not in 2,8,9 all, except 9, 10

• cf. Grimm's scale of individuation (2018: 547), where "Individuation refers to the propensity for an entity to be construed as an independent individual." (2018: 528)

(14) four basic classes:

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liquids/substances < granular aggregates < collective aggregates < individuals

- Foodo nouns basically follow this scale of individuation by sorting liquids and substances into single class genders, i.e. treating them as transnumeral/non-countable nouns
- but between the two entity types there is still variation, seen in the propensity to be assigned to certain genders (single – three –nearly all)
- this morphological feature might be related to the scale of individuation, by assuming that the higher freedom to be assigned to a certain gender reflects more individuation properties of this group of entities
- type of granular and collective aggregates difficult to locate on the scale for Foodo

Morphosyntactic behavior of TN nouns: Count vs. non-count nouns

- morphosyntactic difference between TN (non-countable) and countable nouns:
 - SG/PL pairing
 - combination with cardinal numbers (two dogs) vs. packagers (a glass of water)
 - combination with quantifiers (many vs. much)
 - combination with adjectival modifiers that presuppose individuals, like 'big' (Grimm 2018: 537, fn. 7)
- only limited data on morphosyntactic behavior of noun
- difference to other studies: in gender systems of the Niger-Congo type, nearly all nouns are morphologically marked

Count vs. non-count nouns – SG/PL

- some apparent mass nouns occur as singular/plural pairing
- interpretation unclear

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pairings 3/6 and 9/6 are minor classes in Foodo – contains unusual pairings

(15) kù-fá-ù / í-fá-à	'grass' (SG rarely used)	3/6
dù-gbóó-lí / à-gbóó-m	'fog'	5/4
bìlìjá-à / ì-bìlìjá-à	'dough'	9/6
sík⁺ílî / ì-sík⁺ílî	'sugar'	1/6
ó-já-à ∕ì-já-à	'fire'	1/6

Count vs. non-count nouns - countability

countable nouns can occur with cardinal numbers
 (16) à-fól-ó á-nyō ŋ néé sūlà ka-jankúliŋ-á
 2-boy-2 2-two FOC PROG carry 7-stem-7
 'two boys are carrying a stem'

(17) fù wáŋla sík⁴ílî à-nyó àlàà à-sá
2SG want sugar.1 2-two or 2-three
'Do you want two or three pieces of sugar?'

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Count vs. non-count nouns - countability

no instance of a mass noun with a numeral in my data, but packager possible?
packaging use regarded as not possible in Dagaare (Grimm 2018: 538)

(18)λ-bílé-éànûh-có-mlàkóópè1-old_man-SFXPFVdrink9-water-SFXwithglass.1'The old man drank water with a glass, ...intended: one glass of water

nî dì-fɔ´-lǐ ŋá nû ń-tá-à CNJ 5-boy-5 3SG.EMPH drink 9-local_beer-SFX and the young man, he drank beer.'
Count vs. non-count nouns - countability

unitization by gender shift - change of individuation type of nouns liquid/substance > countable noun

(19) à-nòncóló 'saliva' TN, PL (cl. 4)
kò-nòncóló 'saliva (sg)' use questioned by Plunkett (cl. 3)
dì-nòncóló.bí-lí 'drop of saliva' SGV (5/4)

(20) ì-ŋmá-m 'hair' TN (cl. 6)
 dì-ŋmám.bí-lì / 'single hair / individuati
 à-ŋmám.bé-é single hairs' countable p

individuation: SGV (5/4) countable plural

Count vs. non-count nouns - countability

unitization by gender shift is possible within/because of the whole system of nominal classification in Foodo

(21)	kèélé	'kapok'	stem
	kù-kèèlú-ù / <mark>à</mark> -kèèlé-è	'kapok tree'	3/4
	dì-kèèlél-ì / à-kèèlé-è	'kapok (pod)' (fruit)	5/4
	<mark>ỳ-</mark> kὲὲlí-p⁺ó-ó	'kapok' (fibers)	9
	kèèlíi-f⁺ú ∕ <mark>`i-</mark> kèèlíi-f⁺ú	'leaf of kapok'	1/6

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Count vs. non-count nouns - modification

- unitization by modifying adjective change of individuation type > gender shift collective noun > count noun
- (22) còtì à-tò-kéé. wash.IMP 4-clothes 'Wash the clothes!'

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(23) à-tò-kéé 'clothing' TN
 kù-tó-fúùlù-ú 'white cloth' SG/PL with modifier
 / à-tò-fú⁺úl-ó

Count vs. non-count nouns - modification

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- combination with adjectival modifiers that presuppose individuals, like 'big' not possible with TN nouns (Grimm 2018)
- but see this example in Foodo unitization by modifying adjective without gender shift, but change in interpretation

(24)n-t∫5-m ŋ-nlé-ε bò-kú à dá Jámāısεε.
9-water-SFX 9-big-SFX 9-INDEF PFV hit Germany
'A big flood has happened in Germany.'

Count vs. non-count nouns - quantification

no difference in quantificational marking – here via indefinite marking

(25) 5-t∫íi-m à wî á-t∫é-é à-kú
1-woman-SFX PFV eat 4-beans-SFX 4-INDEF
'The woman ate few beans.'

cf. kàdíyà bà-kú people.2 2-INDEF 'some people'

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Count vs. non-count nouns - quantification

no difference in quantificational marking – here via indifferent quanificational adverb

(26) kùt∫ó nì ò wî many FOC 1.PRO eat 'She ate many (beans).'

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(27) ní 1 nyándà kàdìyà kut∫áŋ ì-píyé-ε.
and 6.PRO destroy people.2 many 6-house-SFX
'Many people have lost their houses.' (lit.: It (the flood) has destroyed the houses of many people.)

- Do transnumeral nouns present a unique category in Foodo? No, but we find some tendencies!
- 1. Morphological distribution
 - class 9 gender is restricted to mass nouns, already in Proto-Guang
 - class 4 and 6 genders are allowed to host also substances, also in Proto-Guang (otherwise plural meaning)
 - DI-.-LI does not host mass nouns > class for individuated and collective items (similarly in Supyire (Carlson 2024) and some Bantu languages (Nurmio et al. 2024)
 - but that the other single class genders only host abstract nouns for unclear semantic reasons, this might be a later development – derivational function of genders
 - this might allow repercussions for the original semantics of the classes in Proto-Guang, possibly also in Proto-Niger-Congo?

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- comparison of the semantics of paired genders with single class genders also did not bring clear results
 - 1/2 humans, 1/6 default for prefixless nouns → cl. 1 mainly for prefixless nouns
 - 3/4 trees as part of core semantics (also in Gur) → cl. 3: no relation to vegetation, cl. 4 with unclear semantics
 - 5/6 singulatives / collectives → cl. 5 no liquids and substances, cl. 6 with unclear semantics
 - 7/8 part-whole relations, offspring, diminutive \rightarrow cl. 7 no relation
- \rightarrow more fine-grained analysis needed
- → in some cases, morphology might override semantic motivation

adnominal affixes of single classes in Proto-Niger-Congo (Williamson 1985: 38f.):

	*Benue-	*Bantu	*GTM	*Gur	*Atlantic	Foodo	Semantic
	Congo					(*Guang)	S
class 6A	ma-	ma-	N-	-ma	a-ma-	N-	liquids
class 6B	a-	ma-	N-	-mu		N-	mass
							nouns
class 14	bu-	bu-	bu-	-bu		bu-	abstracts,
							verbal
							nouns
class 15	ku-	ku-					infinitives

- support of class 14 as single-class gender for verbals nouns / gerunds
- classes 6A/B –innovation in Guang (and GTM) for NF, in Foodo merger of 2 AGR classes > BU-

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- Do transnumeral nouns present a unique category in Foodo? No, but we find some tendencies!
- 2. Morphosyntactic features
 - no clear picture possible, due to lack of data
 - two of the assumed tests for determining count vs- non-count nouns cannot be applied to nouns in Foodo
 - combination with cardinal numbers only possible with count nouns
 - SG/PL pairing most clear indication
 - important: language-specific characteristics of TN nouns!
 - further fieldwork/tests necessary!

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- Do transnumeral nouns present a unique category in Foodo? No, but we find some tendencies!
- 3. Individuation scale
 - applies well to Foodo nouns
 - but scale of entities provides more problems
 - here again, more data needed



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https://foodoabee.com/en/home

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