Countability in Ticuna

Amalia Skilton
University of Texas at Austin, USA
ORCID: 0000-0002-9848-5688

Abstract:

This study examines the mass-count distinction in Ticuna (isolate). Based on original field data, I show that mass and count nouns pattern apart in several grammatical domains. In the language’s number system, I demonstrate that mass nouns are incompatible with both nominal and verbal plural marking. In the quantifier system, I show that Ticuna numerals and quantifiers combine only with nouns introduced by determiners, never with bare nouns. Despite this restriction, numerals and quantifiers remain sensitive to countability. Even when introduced by determiners, mass nouns cannot combine with numerals, nor with three of the six quantifiers available to count nouns.

Resumen:

El presente estudio investiga la distinción entre nombres contables e incontables en Ticuna (lengua aislada). Basado en datos originales recogidos durante el trabajo de campo, muestro que los nombres contables e incontables se distinguen en una variedad de sistemas gramaticales. En el sistema numérico de esta lengua, explico que los nombres incontables son incompatibles con la marca del plural, tanto en el dominio verbal como en el nominal. En el sistema de los cuantificadores, demuestro que los numerales y cuantificadores sólo se combinan con nombres introducidos por determinantes, nunca con nombres escuetos. A pesar de esta restricción, los numerales y cuantificadores sí son sensibles a la contabilidad. Aunque sean introducidos por determinantes, los nombres incontables no se combinan con los numerales, tampoco con tres cuantificadores (de los seis del idioma) disponibles con nombres contables.

Keywords: Mass-count distinction; Number; Amazonian languages; Language isolates

Palabras clave: Nombres contables e incontables; Número; Lenguas amazónicas; Lenguas aisladas

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1 Introduction

This article is a fieldwork-based descriptive study of countability, or the distinction between mass and count nouns, in Ticuna. Ticuna is an Indigenous language isolate spoken by 40,000 (Lewis et al. 2014) to 70,000 (Instituto Socio-Ambiental 2017) people, who live mostly along the main course of the Amazon/Solimões River in Brazil, Colombia, and Peru. The language provides robust evidence for the mass-count distinction. Ticuna count nouns are acceptable with numerals, plural marking, and the quantifiers equivalent to ‘many,’ ‘few,’ and ‘how many?’ Mass nouns, by contrast, are not acceptable in these environments, except under coercion to portion readings.

I collected the data which appears in this paper in the town of Cushillococha, Peru, in fieldwork between 2015 and 2019. Cushillococha is a titled Indigenous community with ~5,000 residents as of late 2019, nearly all of whom are ethnically Ticuna and speak Ticuna as their first and dominant language. Most data was collected during audio-recorded, bilingual (Ticuna-Spanish) elicitation interviews in speakers’ homes. Three main language consultants provided the data on countability discussed here: Lilia Witancort Guerrero (a woman, aged in her late thirties), Yaneth Cándido Guerrero (a woman, late thirties), and Katia Salate Cándido (a woman, early twenties). Other data, not directly bearing on countability, was elicited from Sótil Suárez González (a man, early forties), Angel Bitancourt Serra (a man, early sixties), and Deoclesio Guerrero Gómez (a man, early seventies). All six of these consultants are also fluent L2 speakers of Spanish and have agreed to disclosure of their names.

In addition to elicited examples, some examples are from my corpus of transcribed recordings of Ticuna. The corpus consists of ~116,000 words, primarily of conversation, and is publicly available in the California Language Archive, along with my fieldnotes and recordings of the elicitation sessions (Skilton 2015-2018; Skilton & Bitancourt Serra 2018-2020; or see Skilton in press for a collection overview). All language examples use IPA transcription. Raised numerals in examples denote lexical tone; 5 represents the highest tone.

This paper is organized as follows. §2 provides general background information on the grammar of Ticuna. §3 describes nominal and verbal plural marking in the language. Following this general discussion of the plural, I then investigate the distribution of nominal and verbal plurals with mass vs. count nouns. In §4, I examine the language’s numeral system, including the distribution of numerals with notional mass nouns vs. notional count nouns. Following the discussion of numerals, §5 details the language’s system of quantifiers other than numerals. I show that three of the language’s quantifiers combine only with count nouns, and three only with mass nouns. §6 explores measure phrases, and §7 summarizes and concludes.

2 Language Background

Ticuna displays noun class and a morphological distinction between alienable and inalienable nouns. Understanding noun class and the alienable-inalienable contrast is essential to understanding the syntax of noun phrases in the language. Therefore, I briefly describe both systems. Other background information about the language can be found in documentary works such as Montes (1995), Soares (2000), and Santos (2005). These works
also include information about noun class and the alienable-inalienable contrast, but do not discuss countability.

Two shared syntactic behaviors define the word class of nouns. First, all Ticuna nouns can bear case marking (the language has nominative-accusative alignment and many oblique cases); second, all nouns can participate in possessive constructions. Verbs, in contrast, need nominalizing morphology in order to bear case marking or appear in possessive constructions.

In addition to participating in case marking and possession, all Ticuna nouns – including derived and borrowed nouns – are exhaustively divided into five noun classes. I label the noun classes with Roman numerals I through V. In the noun class typology of Corbett (1991), noun class assignment is predominantly semantic. That is, the noun class of a noun is determined mainly by properties of the nominal referent – such as size, material, and animacy – rather than by phonological properties of the noun. For example, nouns denoting very small objects (such as marbles and coins) usually belong to Class I; nouns denoting palm trees and objects made of palm wood usually belong to Class II; and nouns denoting animates (i.e., humans and animals of all species) never belong to Class III. Most noun phrase constituents – including determiners, demonstratives, third person pronouns, most quantifiers, and all relative clauses – agree in noun class with the head noun of their phrase.

While noun class assignment operates on a semantic basis, it is insensitive to the mass-count distinction. All four classes that contain inanimates contain both mass and count nouns. Table 1 provides two example nouns for each class which contains inanimates: one notional mass noun, and one notional count noun. There is no example mass noun for Class V because Class V does not contain any inanimates (and to my knowledge, all mass nouns in Ticuna are inanimate). To the right of the example columns, the final column of Table 1 shows the form of the universal quantifier, a target of noun class agreement, for each class.

Table 1: Example mass and count nouns belonging to each noun class

<table>
<thead>
<tr>
<th>Noun Class</th>
<th>Example Count Noun</th>
<th>Example Mass Noun</th>
<th>'All'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>ki'tifji 'knife'</td>
<td>di'e'ru' 'money'</td>
<td>gu'e'ma'</td>
</tr>
<tr>
<td>Class II</td>
<td>f'e'ra' 'handsaw'</td>
<td>ja'k'ra' 'salt'</td>
<td>gu'k't'ma'</td>
</tr>
<tr>
<td>Class III</td>
<td>a'u'e' 'canoe'</td>
<td>ti'pa'ka' 'manioc starch'</td>
<td>gu't'i'ne'ma'</td>
</tr>
<tr>
<td>Class IV</td>
<td>ta'ra' 'machete'</td>
<td>u'i' 'manioc flour'</td>
<td>gu't'i'ma'</td>
</tr>
<tr>
<td>Class V</td>
<td>pa'ki' 'young woman'</td>
<td>n/a (no inanimates)</td>
<td>-</td>
</tr>
</tbody>
</table>

Because Class IV is the largest and morphologically default noun class, this paper employs the Class IV form as the citation form for quantifiers and other targets of noun class agreement.

Crosscutting the division into noun classes, nouns are also divided into alienable and inalienable possession classes. As with noun class, a noun’s status as syntactically alienable or inalienable can largely be predicted from properties of the referent. Almost all part terms (e.g., ‘eye,’ ‘leaf,’ ‘wall’), most kinship and relationship terms (e.g. ‘sister,’ ‘son,’ ‘companion’), and most non-part relational nouns (e.g., ‘replacement,’ ‘price’) are inalienable. Additionally, nouns denoting close personal possessions (e.g., ‘hammock,’ ‘skirt’), features of the built environment (‘house,’ ‘garden’), geographic features (‘river,’ ‘lake’), and configurations (‘mixture,’ ‘pile’) also tend to be inalienable.
While these semantic factors predict the inalienable vs. alienable status of underived, native-vocabulary nouns, they do not predict inalienable vs. alienable status for the entire nominal lexicon. Derived nouns and nouns borrowed from other languages are always alienable, regardless of semantics. Thus, for example, the native-vocabulary Ticuna noun \( \text{na}^{\text{a}+} \text{t}^{\text{i}+} \) ‘father’ is inalienable, but the apparently synonymous Spanish loan word \( \text{pa}^{\text{a}+} \text{pa}^{\text{a}+} \) ‘father’ is alienable. For this reason, I treat status as alienable or inalienable – like noun class – as a primarily morphosyntactic property of nouns, albeit one with a syntactic basis.

Syntactically, the defining characteristic of inalienable nouns is that they are unacceptable in isolation (1a). Instead, inalienable nouns must be possessed by an overt possessor, cliticizing to the last element of the possessor noun phrase and forming one prosodic word with it (1b, c). In contexts where an inalienable noun is not semantically possessed, such as (2), its morphological requirement for a possessor is filled by the default possessor (DFLT.POSS) morph \( \text{na}^{\text{a}+} \sim \text{na}^{\text{a}+} \).

(1) a. \( \text{pa}^{\text{a}+} \text{te}^{\text{e}+} \)  
\( \text{hat} \)  
(Attempted reading: ‘hat’) (elicited)

b. Ka’ru^{+} = \text{pa}^{\text{a}+} \text{te}^{\text{e}+} \text{e}^{3}  
\text{Carlos} = \text{hat}  
‘Carlos’ hat’ (elicited)

c. \( \text{ji}^{\text{m}^{+}} \text{ma}^{4} \) \text{tfo}^{3} = \text{\text{t}i}^{3} \text{ Á}^{\text{u}^{+}} \text{ -} \text{\text{e}^{3}} = \text{\text{ki}^{3}} \)  
\text{DFLT.POSS(II) 1SG = ACC learn -CAUS = NMLZ(II) = hat}  
‘the hat of the one (Class II) who teaches me’ (elicited)

(2) ai^{3}  
\text{ri}^{1} \text{ na}^{3} = \text{e}^{3} \text{\text{t}i}^{3}  
\text{ni}^{3}\text{i}^{4} \text{ jaguar(IV) TOP} \text{ DFLT.POSS} = \text{wild.animal} 3(IV) \text{SBJ.COP}  
‘Jaguars are wild animals / The jaguar is a wild animal.’ (elicited)

In contrast to inalienable nouns, alienable nouns are acceptable in isolation (3a). Moreover, when alienable nouns are possessed, they do not encliticize to the possessor. Instead, the alienable possession marker \( \text{a}^{\text{a}+} \text{ri}^{3} \) encliticizes to the last element of the possessor. The alienable noun follows the possession marker, forming an independent prosodic word separate from the possessor (3b, c).

(3) a. \( \text{\text{g}^{3}} \text{\text{t}i}^{3} \)  
\text{grandfather}  
‘grandfather, old man’ (elicited)

b. Ka’ru^{+} = \text{a}^{\text{a}+} \text{ri}^{3} \text{ \text{g}^{3}} \text{\text{t}i}^{3} \text{ \text{e}^{3}}  
\text{Carlos = AL.POSS grandfather}  
‘Carlos’ grandfather’ (elicited)

c. \( \text{ji}^{\text{m}^{+}} \text{ma}^{4} \) \text{ja}^{3}\text{\text{t}i}^{4} \text{tfo}^{3} = \text{\text{t}i}^{3} \text{ Á}^{\text{u}^{+}} \text{ -} \text{\text{e}^{3}} = \text{\text{ki}^{3}} \)  
\text{AL.POSS(II) man(II) 1SG = ACC learn -CAUS = NMLZ(II) = AL.POSS grandfather}  
\text{AL.POSS grandfather}  

\^\text{Examples use the following abbreviations: 1 = first person, 2 = second person, 3 = third person, ACC = accusative, AL.POSS = alienable possession morpheme, ALL = allative, ANA = anaphoric demonstrative, CAUS = causative, CLEF = classifier incorporation, COP = copula, DEM = demonstrative, DET = determinant, DFLT.POSS = default possessor morpheme, DFM = diminutive, DIST = distal, DISTRIB = distributive enclitic, EXCL = exclusive, FUT = future, IBER = intransitive beneficiary case, IMP = imperative, IMPF = imperfective aspect, INCL = inclusive, INFO = information-structural marker other than topic/focus, INVIS = invisible referent marker, LOC = locative, NI = noun incorporation, NMLZ = nominalizer, OBJ = object, PL = plural, PROX = proximal, PUP = purposive case, REMPST = remote past, SBJ = subject, SC = subordinate clause type (inflection), SG = singular, SUB = subordinator, TOP = topic.}
'the grandfather of the man who teaches me' (elicited)

As with noun class, the mass-count distinction fails to impact the division of nouns into alienable vs. inalienable. Rather, the alienable-inalienable distinction is relevant here mainly because some measure/container terms are lexicalized as inalienable nouns (§6).

3 Plural Marking

Within this section, §3.1 provides an overview of nominal and verbal plural markers in Ticuna, and §3.2 discusses the distribution of plural marking with mass vs. count nouns.

3.1 Introduction to Plural Marking

3.1.1 Nominal Plural

There is only one marker of nominal number in Ticuna: the plural enclitic =gi⁴. I refer to this morph as an enclitic rather than a suffix because (a) it attaches to the final element of the noun phrase, with no concord between constituents, and (b) it appears on multiple word classes, including on verbs.

The nominal plural =gi⁴ is acceptable with nouns of all noun classes; with alienable and inalienable nouns; and with nouns of all positions on the animacy hierarchy. It can even appear on proper nouns, yielding an associative plural reading (which is also available with human common nouns).

(4) provides examples of =gi⁴ on nouns of various positions on the animacy hierarchy. As (4) indicates, the nominal plural is optional on nouns of all animacy levels.


[ na⁴ʔ= ta⁴a⁴(=gi⁴) =ʔi⁴ / oʰta⁴(=gi⁴) =ʔi⁴ / duʰʔi⁴(=gi⁴) =ʔi⁴ ] tʃa³= dau⁴
[ deflt.poss= lake (=PL) =acc / chicken (=PL) =acc / person (=PL) =acc ] 1sg.sbj= see

'I saw lakes / chickens / people.' (elicited)

(5) provides a corpus example of the associative plural reading of =gi⁴ on proper nouns.

(5) ɟe³a² dem.dist(IV) =ã⁴ma⁴ =invvis grandfather Deoczelsio =pl 3(IV) =loc live/sleep =pl =nmlz:IV 3(IV)sbj.cop
i⁴ Mə'wɨ'tɨ⁴ɨ̃¹

'Vee (place), where Don Deoczelsio and his family live, is (called) Mə'wɨ'tɨ⁴ɨ̃¹.' (landscape description)

Although consultants judge the plural to be optional on human nouns, per (4), human nouns referring to pluralities essentially always bear the plural in corpus materials. By contrast, non-human animate nouns and inanimate nouns much less frequently bear the plural in the same materials.

It is not clear to me exactly what conditions the variable realization of the plural on non-human animate and inanimate nouns. However, some possibilities can be eliminated. Based on corpus examples, definiteness is not
the key influence in the distribution of the nominal plural. Bare non-human nouns with plural reference occur in existential contexts; novel contexts, such as (6); and familiar contexts, such as (7). It is clear that the bare nouns in (6) and (7) refer to pluralities both contextually and because the enclitic =gi⁴, which on verbs marks the presence of a plural argument, appears on the verb in both examples.

(6) Context: ‘My father-in-law lived in the forest…’

\[
\begin{align*}
ta³¹ =Tɪ¹ &= ma ~ gɔ¹ \\
ta³¹ nai³³ tɪ¹ tɪ³ =a³ rɪ¹ &= i² = gi⁴ \\
big = nMLZ(IV) & = INFO ~ DET.REMPST tree(IV) 3(I) = AL.POSS ~ port = ALL 3(IV)$_{SBJ}$ = stand.tree = PL
\end{align*}
\]

‘Large trees [no plural] stood [plural] in his port.’ (landscape description)

(7) Context: Describing a picture of two chameleons crawling into a pile of sand. Every previous sentence in the discourse has referred to these same chameleons.

\[
\begin{align*}
na³³ tʃe³⁴ ma² i⁴ ςɪ³? ma³ rɪ³ na³²? ne³ ki³ = te⁴ ? c³ &= wa³ na⁴ = ʎu³ = gi⁴ \\
DEM.PROX(IV) & = chameleon(IV) DET(IV) now = top sand = powder = ALL 3(IV)$_{SBJ}$ = arrive = PL
\end{align*}
\]

‘Now these chameleons [no plural] are arriving [plural] in the sand.’ (storyboard)

To summarize, the nominal plural enclitic is compatible with all count nouns—regardless of their noun class, alienable/inalienable status, animacy, or humanness. The nominal plural has both canonical plural readings, available to all nouns, and associative plural readings, available to human nouns. The plural is optional: nouns without plural marking may still have plural reference. Additionally, bare nouns referring to pluralities can still trigger plural morphology on verbs, indicating that they are marked as plural at some level of representation.

### 3.1.2 Verbal Plural

Ticuna has at least five morphosyntactic constructions which index plural argument number on verbs: the verbal plural enclitic =gi⁴ PL, the verbal plural suffix -e³ PL (for syntactically unaccusative verbs), the verbal distributive enclitic =tfi⁴ gi⁴ DISTRIB, argument number alternations in the form of directional suffixes, and argument number alternations in verb roots. In this discussion, I consider only the last of these constructions: suppletion of verb roots based on argument number.

Number alternations in verb roots are relevant to the areal focus of this volume because they are attested in many language families present in Brazil, including Tupi (Lima 2017:1625n6), Macro-Jê (Bardagil Mas 2018:29), Panoan (Neely 2019:336), Naduhup (Obert, this volume), and Tukanoan (Farmer 2015:57-60). They are also relevant to the substantive focus, as Wilhelm (2006, 2008) observes that acceptability with ‘inherently plural verbs’ tracks the mass-count distinction in Dëne Sųliné (a Dene [Athabaskan] language spoken in Canada).

In Ticuna, number-alternating verb roots belong to a larger system of classificatory verbs, which can classify the internal argument of the verb in terms of animacy or shape (e.g., mu² ‘put:AnimO’ vs. i⁴ ‘put:InamSgO’ vs. we’ ‘put:1-Dimensional.O’) as well as number (nu⁴ ‘put:InamPLO’). This system strongly resembles the system of classificatory verb roots in Dene languages such as Diné/Navajo (Fernald & Willie 2001, citing Willie 2000) and Dene Sųliné (Wilhelm 2008).
Number alternations occur primarily in intransitive verbs of motion and posture and transitive verbs of caused motion. The alternations distinguish only two number categories: singular and plural. They track the number of the subject for intransitive verbs (8), but the number of the object for transitive verbs (9a). Plural subjects do not license the plural forms for transitives (9b). Plural event number (multiple occurrences of the same event with the same participants) also does not license the plural forms.

(8) nu²a² ta⁴ futa⁴ [ ta⁴ri²= tfo⁴⁹ / * ta⁴ri²= ṭǎu⁴ ]
here fut [ 1EXCL.SBJ= stay:PLS / * 1EXCL.SBJ= stay:SgS ]
‘We will stay [PLS / *SgS] here.’ (elicited)

(9) a. Bi³tu⁵ ri¹ ta⁷tre⁴ i¹ o³ta⁵ [ ni¹= ma³ / na¹= dai³ ]
Victoria(IV) top two det(IV) chicken(IV) [ 3(IV)SBJ= kill:SgO / 3(IV)SBJ= kill:PLO ]
‘Victoria killed [SgO / PlO] two chickens.’ (elicited) [Sg A > Pl O]

b. wɨ⁴³ʔi⁴ wo³ka¹ [ ti¹= ma³ / * ti¹= dai³ =gi⁴ ]
one det(IV) cow(IV) [ 1EXCL.SBJ= kill:SgO =PL / * 1EXCL.SBJ= kill:PLO =PL ]
‘We killed [SgO / PlO] one cow.’ (elicited) [Pl A > Sg O]

If the internal argument of a number-alternating verb is first or second person plural, then it is obligatory to use the plural form of the verb, as shown by (8). If the internal argument is third person plural, on the other hand, either the singular or the plural form of the root is acceptable, per (9a). This holds for both non-human internal arguments, as in (9a), and human ones. Thus, the ‘SgO/SgS’ forms of these roots would be more accurately labeled number-neutral or underspecified. The ‘PlO/PlS’ forms, on the other hand, are specifically plural.

While the plural argument in (9b) happens to be quantified by a numeral, the plural forms of alternating roots do not require their arguments to be quantified or bear the nominal plural. Bare nouns referring to pluralities also license the plural forms. (10) demonstrates this: the PlO form of the verb ‘transport’ is acceptable even though the object, tfo⁴⁹?ni⁵ ‘fish,’ lacks the nominal plural.

(10) Context: I want you to bring me several (dead) fishes.

<table>
<thead>
<tr>
<th>nu²a⁴ ti⁴=ti²</th>
<th>na¹= Ac⁴⁹ / na¹= na⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>here 3(I)=ACC</td>
<td>3(I)=IMP= transport:InamSgO / IMP= transport:InamPlO</td>
</tr>
<tr>
<td>‘Bring the fishes [SgO / PlO] here.’ (elicited)</td>
<td></td>
</tr>
</tbody>
</table>

3.2 Plural and the Mass-Count Distinction

Acceptability with the plural is a clear test for distinguishing mass and count nouns in Ticuna. Mass nouns are unacceptable with the nominal plural. Additionally, for verbs which participate in number alternations, plural forms are unacceptable if the licensing argument is mass. Thus, both nominal and verbal plural marking are sensitive to the mass-count distinction.

3.2.1 Mass Nouns are Incompatible with the Nominal Plural

Notional mass nouns are not compatible with the nominal plural enclitic =gi⁴ (11). Attempts to combine the nominal plural with mass nouns were always rejected by one consultant (LWG), and rejected in all but one case
by another (KSC). The third consultant, YCG, accepted all of my examples of plurals on mass nouns. However, in every case she made comments indicating coercion to a portion reading (analogous to the comments in 13 below).

(11) | # ju³ki³ra¹ =gi⁴ =ʔi¹ tʃa³ = dau²
      | # salt =PL =ACC 1SG.SBJ = see
      | (Attempted: I saw salts.) (Rejected by KSC and LWG.)

When consultants did accept plurals on mass nouns, they always made comments indicating that the pluralized mass noun referred to a set of portions of the substance, as in the comments on (12) and (13). Additional questioning showed that pluralized mass nouns do not refer to large quantities of the substance – that is, pluralized mass nouns are not ‘plurals of abundance’ (Doron & Müller 2013).

(12) | u³i¹ =gi⁴ =ʔi¹ tʃa³ = dau²
      | manioc flour =PL =ACC 1SG.SBJ = see
      | ‘I saw manioc flours.’
      | LWG’s comment: ‘The flour was in bags.’
      | AHS: ‘What if you saw a batch of manioc flour on the toasting griddle?’ [plural of abundance reading]
      | LWG: ‘No.’

(13) | de⁴³ʔa⁵ =gi⁴ =ʔi¹ tʃa³ = dau²
      | water =PL =ACC 1SG.SBJ = see
      | ‘I saw waters.’
      | KSC’s comment: ‘This would make sense if you saw many tanks of water.’
      | AHS: ‘What if you saw a lot of water in the lake?’ [plural of abundance reading]
      | KSC: ‘No.’

(11) - (13) suggest the generalization that mass nouns may not occur with the plural except on a coerced portion reading. In order to test this generalization, I searched my corpus of Ticuna for tokens of four nouns (‘water,’ ‘money,’ ‘manioc flour,’ and ‘salt’) that seemed likely to be frequent and that I knew, from examples like (11) - (13), to be judged unacceptable with the plural in elicited data.

The corpus contained 87 tokens of ‘water,’ 48 of ‘money,’ 29 of ‘manioc flour,’ and 12 of ‘salt,’ giving a total of 176. Of the 176 tokens of these mass nouns, three tokens were marked with the plural – two tokens of u³i¹ ‘manioc flour’ and one of di³ẽ³ru¹ ‘money.’ (14) is a corpus example of u³i¹ ‘manioc flour’ with the plural.

(14) Context: Talking about how Caballococha (provincial capital) did not have a market in the old days.

When Ticuna people arrived from their houses to town, they would sit down next to the church. Then,

a. i⁵na¹=ʔe³e³gt⁴ ti⁴=je³ma³ na³iʔka¹ na³=ʔe³gi⁴,
   i⁴= na⁴= ʔe³e³ =gi⁴ =ʔi¹ je³= ma³ na³¹=ʔka¹ na³= ta³= =gi⁴
   IMPF =3.SBJ.SC= wait =PL =SUB there(ANA.REMPST) 3 =PURP 3(IV) =SBJ= buy =PL
   ‘They would wait and (the townspeople) would buy (their produce) there,’

b. i⁴ u³i³gi⁴ ri⁴ po³ʔi³gi⁴ je³= ma³=̆ ki⁴ ni²⁴=gt⁴.
Given the imperfective aspect marking on the predicate in (14a) and the fact that manioc flour is conventionally sold in packaged portions, (14b) supports a reading conveying that people habitually sold multiple individual portions of manioc flour. This is a portion reading – the same kind of reading which we saw licensing plurals on mass nouns in (12) and (13). The same is true of the other two examples of pluralized mass nouns in the corpus, one of which describes exactly the same eventuality as (14b) and one of which (with ‘money’) describes multiple events involving different portions of money.

Thus, corpus data about pluralized mass nouns is consistent with elicited data. Mass nouns very rarely occur with the plural in actual language use, and when they do, context always supports a portion reading.

3.2.2 Mass Nouns are Incompatible with Plural Verbs

Notional mass nouns are also incompatible with the plural forms of number-alternating verb roots. As with the nominal plural, consultants mostly rejected sentences, such as (15), which combined mass noun objects with the PlO forms of number-alternating transitive verbs.

(15) Context: I dropped off a quantity of manioc starch. It was not packaged in bags or containers.

# tɨ³pa³ka¹ manioc.starch ŋe⁵ma² there(ana) tʃa³= 1sg.sbj=wo¹ discard:PlO

(Attempted: I left the manioc starches there.)

When consultants did accept sentences where mass noun objects combined with the PlO forms of number-alternating verbs, they invariably made comments indicating a reading of the mass noun object as referring to a plurality of portions of the substance, as in (16).

(16) ? de⁴³ʔa⁵ water nu²a² here na¹= imp= na⁴ transport:InamPlO

‘Bring the waters here.’ (elicited)

YCG’s comment: ‘You could say this if the water was in bags.’

Consultants repaired structures like (15) and (16) in two ways. Sometimes, they simply changed the PlO form of the alternating verb to the SgO form, as in (17). At other times, consultants repaired these structures by retaining the PlO form of the verb, but employing a measure phrase (formed with a container term) rather than a bare mass noun object. I return to this strategy in the discussion of measure phrases (§6).

(17) de⁴³ʔa⁵ nu²a² na¹= ke⁴³

water here imp= transport:InamSgO

‘Bring the water here.’ (elicited)
Thus, despite the other similarities between Ticuna’s classificatory verbs and those of Dene languages, the language’s number-alternating verb roots do not behave like those of Dëne Súliné with respect to combination with mass nouns. In Dëne Súliné, the plural alternants of classificatory verbs do not combine with mass nouns, but neither do the singular alternants. Instead, Dëne Súliné mass nouns combine with classificatory verbs unique to mass arguments (Wilhelm 2006:439). Ticuna, on the other hand, does not make this distinction between count and mass objects in its system of classificatory verbs. Instead, the language simply combines mass nouns with the singular/number-neutral forms of alternating verbs, treating them – for purposes of the classificatory verb system – like singular count nouns.

### 3.3 Number Marking: Summary

Ticuna displays extensive marking of number in both nominal and verbal domains. In the nominal domain, there is a single, optional plural enclitic which is compatible with all count nouns, regardless of animacy, alienability, or noun class. This enclitic is not, however, compatible with notional mass nouns. Similarly, verbs participate in root alternations tracking argument number. Count arguments can license the plural alternants of number-alternating verbs, even if they do not bear the nominal plural. Mass arguments, on the other hand, cannot license the plural forms of alternating verbs. Thus, acceptability with plural marking, whether on the noun itself or on the predicate, clearly distinguishes mass and count nouns.

### 4 Numerals

I begin this section by introducing the numeral system of Ticuna (§4.1). I then discuss the distribution of numerals with mass vs. count nouns (§4.2).

#### 4.1 Numerals and Their Syntax

The Ticuna speakers consulted for this study (and Cushillococha Ticuna speakers in general) only use two numerals of Ticuna origin: *wi⁴ʔi⁴* ‘one’ and *ta²ʔre⁴* ‘two.’ While they also know higher numerals of Ticuna origin equivalent to ‘three’ through ‘ten,’ in practice Cushillococha people generally use Spanish numerals for all quantities above two. Therefore, this section focuses only on the equivalents of ‘one’ and ‘two.’

Neither *wi⁴ʔi⁴* ‘one’ nor *ta²ʔre⁴* ‘two’ can combine directly with any noun, whether mass or count. Instead, numerals – and in fact, all quantifiers in Ticuna – must combine with a noun that is introduced by a determiner. This is shown by (18), where omitting the determiner *ja⁴* leads to ungrammaticality.

---

1. An additional motivation for this focus is that ‘one’ and ‘two’ are monomorphemic, while all higher Ticuna numerals are morphologically complex. *To’m a⁴ʔpe⁴* ‘three’ is derived from a cranberry morph *to’ma¹* and the productive suffix *-pe⁴* ‘quantity,’ and *a⁴=qti⁴me⁴ki¹* ‘four’ can be parsed as a verb meaning ‘they have companions’ (< *a⁴=qti⁴me⁴ki¹* ‘have=pl=companions’), a common etymology in Northwestern Amazonia (cf. Epps 2013). The numerals ‘five’ through ‘ten’ are derived from the word meaning ‘hand,’ and ‘eleven’ through ‘twenty’ are derived from the word meaning ‘foot.’ Anderson (1962:163-164) provides further detail on the native-vocabulary numeral system.
While determiners are obligatory with all quantifiers, including numerals, I do not analyze them as numeral classifiers. This reflects three key properties of the determiners.

First, while determiners are obligatory in quantifier phrases, they are also obligatory in many environments that do not involve quantification. For example, all postverbal noun phrases – whether or not they contain quantifiers – must be introduced by determiners. Thus, a determiner must introduce the postverbal subject ‘mirror’ in (19), even though it is not quantified. As such, determiners do not have the syntactic distribution of numeral classifiers.

Second, the determiners obligatorily introduce some classes of nouns which cross-linguistically fail to occur with classifiers, such as first and second person pronouns. (20), where a determiner must introduce the first person inclusive pronoun ɟi¹e²ma⁴, demonstrates that the obligatoriness of determiners in quantifier phrases extends to pronouns. Determiners’ compatibility with first and second person pronouns represents additional evidence that determiners do not have the syntactic distribution of numeral classifiers.

Third, there are only two determiners. One, which I gloss as det and which has the forms (ɟ)a⁴ (noun class I/II) ~ (ɟ)a¹ (III) ~ ɪ⁴ (IV/V), can introduce nouns in any environment. The other, which I gloss as det.rempst and which has the invariant form ga⁴, can introduce nouns only in clauses with remote past temporal reference (part of a broader nominal tense phenomenon in the language; see Soares 2017). As suggested by the presence of just two determiners, the determiners do not classify nouns by shape or other physical properties; therefore, they also lack the semantics expected for numeral classifiers.

To summarize, the determiners of Ticuna do not have the syntactic distribution, semantics, or numerosity typical of numeral classifiers, including in other Amazonian languages (Seifart 2005; Seifart & Payne 2007). Consequently, rather than treat the determiners as classifiers, I assume that they are part of an obligatory structure which is necessary to license all nouns, like the determiners of Salish languages (Davis et al. 2014:e199-e204). That is, the function of Ticuna determiners is exclusively syntactic. They are not definite or indefinite articles; in fact, they make no semantic contribution to the noun phrase except conveying the noun class of the following noun. To the extent that determiners do not appear with all nouns (e.g., they cannot appear in preverbal object noun phrases unless they are quantified), I assume that their under-realization has phonological motivations, driven by the determiners’ prosodic status as enclitics to the preceding word.
4.2 Numerals are Incompatible with Mass Nouns

While numerals cannot combine directly with any noun, the distribution of numerals still diagnoses the count-mass distinction. Combining a numeral with a determiner complemented by a count noun is always acceptable, whether the count noun is human (21a), nonhuman animate (21b), or inanimate (18). Nouns that combine with numerals normally do not bear the nominal plural, as shown by the absence of the plural =gɨ⁴ in (18) and (21).

(21) a. na⁴= ṇe′ʔma⁴ i⁴ taʔre⁴ i⁴ ɬe⁷tɨ̰²ʔɨ̃⁴
   3.SBJ= be.in.place DET(IV) two DET(IV) young.man(IV)
   ‘Two young men are there.’ (storyboard)

b. taʔre⁴ i⁴ tʃo⁴³ʔni⁵ =ʔɨ̃³ =ʔa³= dau²
   two DET(IV) fish(IV) ACC 1SG.AT= see
   ‘I saw two fish.’ (elicted)

By contrast, consultants almost invariably rejected attempts to combine a numeral with a determiner complemented by a mass noun, such as (22).

(22) # taʔre⁴ i⁴ u³†=ʔa³= dau²
   # two DET(IV) manioc.flour(IV) =ACC 1SG.AT= see
   (Attempted: I saw two manioc flours.)

Whenever consultants accepted structures like (22), they always made comments indicating a reading of the mass noun as denoting a culturally conventional portion of the substance. For instance, the consultant’s comment in (23) offers two different examples of this portion reading of the mass noun ka³pe⁴ ‘coffee.’

(23) taʔre⁴ ja⁴ ka³pe⁴ nu¹a² pe⁺⁴ ɬe⁷³⁵ a³⁷ =ru⁵i³
   two DET(II) coffee(II) here 2PL= transport:InamSgO drink =PURP
   ‘Y’all bring two coffees here, to drink.’ (elicited)

KSC’s comment: ‘You could say this to order two cups or two packets of (instant) coffee.’

The portion reading of (23) is not so prominent as to make this sentence unquestionably acceptable. While KSC accepted (23) on the portion reading indicated by her comment, another consultant – LWG – rejected it completely, requiring a measure phrase (§6) to allow a portion reading.

The portion reading appears to be the only licit reading available to mass nouns combining with numerals. Consultants rejected attempts to use the structure in (22) and (23) to quantify kinds of the substance. Instead, they preferred to employ an enclitic equivalent to English kind, as shown in (24).⁴


   # tʃo³¹ =ʔa³= na⁴= ṇi³ma⁴ ja⁴ taʔre⁴ ja⁴ jʊʔkiɾa³
   # 1SG =iben 3(II).SBJ= exist(II) DET(II) two DET(II) salt(II)
   (Attempted: I have two salts i.e. kinds of salt.)

   LWG’s comment: ‘This means you have two bags of the same kind of salt’ [portion reading].

⁴I do not have data about whether numerals combining with mass nouns can also be read as quantifying over minimal parts of the noun (e.g., whether (24) is acceptable with the reading ‘I saw two grains of salt’).

4
b. Consultant’s correction of (24a):

\[
\begin{align*}
tʃo³¹ & =ʔɨ̃⁵ & = iben \\
na⁴ & = ji³ma⁴ & ja⁴ & taʔre⁴ & = ra³t⁴ & = ki³ & ja⁴ & ju³ki'ra³ \\
1SG & =IBEN 3(II).SBJ= exist(II) DET(II) two & =kind & = NMLZ(II) DET(II) salt(II) \\
' I have two kinds of salt.' & [with enclitic 'kind']
\end{align*}
\]

The universal quantifier \(wɨ⁴³ʔi⁴tʃi¹gɨ¹\) 'every' is derived from the numeral \(wɨ⁴³ʔi⁴\) 'one' with the distributive enclitic \(=tʃi¹gɨ¹\). Like numerals, \(wɨ⁴³ʔi⁴tʃi¹gɨ¹\) 'every' cannot combine with determiners that introduce mass nouns (25).

\[
\begin{align*}
\# \ wɨ⁴³ʔi⁴tʃi¹gɨ¹ & a⁴ & ju³ki’ra³ & =ʔɨ̃³ & = acc \\
& =tʃa³ & sbj & = dau² & see \\
\# every & DET(II) & salt(II) & =ACC 1SG.SBJ= see \\
\end{align*}
\]

(Attempted: I saw/examined every salt.)

4.3 Numerals: Interim Summary

Ticuna numerals do not combine directly with either mass or count nouns. Instead, numerals — and all other quantifiers — must combine with a noun introduced by a determiner. When this requirement is met, mass and count nouns do contrast in acceptability with numerals. Numerals can combine with determiners that introduce count nouns. They cannot combine with determiners that introduce mass nouns, except on coerced portion readings of the mass noun.

5 Quantifiers Other Than Numerals

Other than numerals and numeral-derived quantifiers like 'every,' Ticuna displays at least six quantifiers which can quantify count nouns. Two quantifiers are strong (i.e., cannot appear in the pivot of an existential; Milsark 1974): \(gu⁵ʔɨ̃⁴(ma³)\) 'all' and \(ni³⁵ma⁵ʔre³\) 'partitive some.' The other four quantifiers are weak (can appear in the pivot of an existential): \(mu⁵ʔre³(ma³)\) 'many,' \(no³⁵ʔre³\) 'few,' \(taʔuʔʔi³\) 'none,' and \(pu⁵ʔre³\) 'how many?.' All of these quantifiers, except for \(no³⁵ʔre³\) 'few' and \(pu⁵ʔre³\) 'how many?', display obligatory noun class agreement with their complement noun. Like numerals, Ticuna quantifiers always combine with nouns introduced by determiners, never with bare nouns.

Five of the six quantifiers either are transparently derived from nominalizations of verb roots, or can also be used (with no additional morphology) as existential/quantificational verbs.\(^5\) Table 2 shows the verb roots corresponding to each of the quantifiers just introduced.

(26) demonstrates that all of the quantifiers just listed are compatible with count nouns. As with numerals, nouns which combine with quantifiers usually do not bear the nominal plural enclitic; for example, none of the nouns in (26) display it.

\(^5\)The only quantifier which is not related to a verb is \(ni³⁵ma⁵\) 'partitive some,' which is derived from the third person pronoun.
Table 2: Count noun quantifiers and related verbs

<table>
<thead>
<tr>
<th>Quantifier</th>
<th>Related Verb</th>
<th>Quantifier’s Relationship to Verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>gu⁵ʔɨ̃⁴ma³</td>
<td>gu¹ run out; be finished</td>
<td>Nominalization of verb</td>
</tr>
<tr>
<td>mu¹ʔɨ̃⁴ma³</td>
<td>mu⁴ exist many; be numerous</td>
<td>Nominalization of verb</td>
</tr>
<tr>
<td>no³¹ʔre⁵</td>
<td>no³¹ʔre⁵ ’exist few; be few’</td>
<td>Identical to verb</td>
</tr>
<tr>
<td>ta²ʔu²ʔɨ̃⁴</td>
<td>tua² ’negative existential’</td>
<td>Nominalization of verb</td>
</tr>
<tr>
<td>pu²ʔre⁴</td>
<td>pu²ʔre⁴ ’how many are there?’</td>
<td>Identical to verb</td>
</tr>
</tbody>
</table>

(26) a. nɨ³¹ =ʔɨ̃³ = 3(III) =ACC 1SG.SBJ = see DET(III) [ ga²ʔne¹ma³ / ni³¹ma’n̂e⁴ / mu¹ʔne¹ma³ / no³¹re² ] ja³ 3(III) =ACC 1SG.SBJ = see =det(III) u’ku’ needle(III) ‘I saw all of the needles / some of the needles / many needles / a few needles.’ (elicited)

b. ta²ʔu⁵ne¹ma³ ja³ u’ku³ =ʔɨ̃³ = 3(IV) det(III) needle =ACC 1SG.SBJ = see ‘I saw no needles.’ (elicited)

c. pu²ʔre³ ja³ u’ku³ ja³ ni³¹ʔre³ ku³ =ʔɨ̃³ = 3(IV) det(III) needle(III) det(III) 3(III) =ACC 2SG.SBJ.SC = see =NMLZ(III) ‘How many needles did you see?’ (elicited)

Of the six quantifiers which are compatible with count nouns, three quantifiers – gu⁵ʔɨ̃⁴(ma³) ‘all,’ ta²ʔu²ʔɨ̃⁴ ‘none,’ and ni³¹ma²ʔɨ̃⁴ ‘partitive some’ – are also compatible with mass nouns (27).

(27) a. gu⁵ʔɨ̃⁴ma³ i¹ de⁴ʔi³ ri¹ na¹ = tja¹ = tji³ ‘All of the water is cold.’ (elicited)

b. ta²ʔu⁵ti³ i¹ de⁴ʔi³ ri¹ na¹ = tji³ ‘None of the water is hot.’ (elicited)

c. Context: You mixed white and yellow manioc flour together.

ni³¹ma³ i¹ =u¹i¹ ri¹ na¹ = tjo¹ SOME(IV) det(IV) manioc.fLOUR(IV) top 3(IV) SBJ = white ‘Some of the manioc flour is white.’ (elicited)

The other three quantifiers which combine with count nouns – mu¹ʔɨ̃⁴(ma³) ‘many,’ no³¹ʔre³ ‘few,’ and pu²ʔre³ ‘how many?’ – are not acceptable with mass nouns. Instead, these three quantifiers alternate with quantifiers which are specific to mass nouns. I now discuss each of the three count noun-specific quantifiers and their mass noun equivalents.

5.1 mu¹ʔɨ̃⁴(ma³) ‘many’

(28) demonstrates that the quantifier mu¹ʔɨ̃⁴(ma³) ‘many’ is not acceptable with mass nouns, except on the coerced portion reading represented by the comment.

(28) # mu’ki³ma³ ja³ na¹ = gi³ # many(II) det(II) dflt.poss = blood(II)
LWG’s comment: ‘But a lab tech could say this, talking about many test tubes of blood.’

Instead of mu’rî(ma³) ‘many,’ mass nouns are quantified with the quantifier ta’írî ‘a lot.’ Like ‘many,’ ta’írî ‘a lot’ undergoes noun class agreement. In (29), it appears in the form for noun class II.

\[
\begin{align*}
\text{ta’írî} & \quad \text{a lot/big} \quad \text{DET} \quad \text{DFLT.POSS} = \text{blood} \quad \text{II} \\
\text{gî} & \quad \text{blood} \quad \text{II}
\end{align*}
\]

With count nouns, ta’írî ‘a lot’ is not interpreted as a quantifier – even when it occurs in the prenominal position usually reserved for quantifiers, as in (30). Rather, when used to modify a count noun, the item means ‘big’: that is, it is interpreted as a property concept term conveying size.

\[
\begin{align*}
\text{ta’írî} & \quad \text{i} \quad \text{du’îrî} \quad \text{IV} \\
\text{a lot/big} \quad \text{DET} \quad \text{IV} \\
\text{person} \quad \text{IV}
\end{align*}
\]

\textbf{Not}: ‘a lot of people’ (elicited)

Morphologically, ta’írî ‘a lot, big’ is a nominalization of the verb root ta’î. This verb root may also be used as a predicate. When predicated of a count noun, ta’î is simply a stative verb meaning ‘be big.’ By contrast, when predicated of a mass noun, ta’î is interpreted as a quantificational existential verb meaning ‘be abundant,’ as shown in (31).

\[
\begin{align*}
\text{na} & \quad = \quad \text{ta} \quad \text{a lot/big} \quad \text{DET} \quad \text{IV} \\
\text{3} \quad \text{SBJ} & \quad \text{a lot/big} \quad \text{DET} \quad \text{IV} \\
\text{water} \quad \text{IV}
\end{align*}
\]

‘There was a lot of water.’ (landscape description)

Parallel to ta’írî ‘a lot, big,’ the count noun-specific quantifier mu’rî(ma³) ‘many’ is also a nominalization, derived from the verb root mu’ ‘be numerous’ (cf. Table 2). This verb, like the verb ta’î ‘be abundant,’ also functions as a quantificational existential verb. While ta’î ‘be abundant’ selects a mass noun subject, mu’ ‘be numerous’ selects a count noun subject (32).

\[
\begin{align*}
\text{to’maká’î} & \quad =\text{gi} \quad \text{ri} \quad \text{na} = \quad \text{mu} \\
\text{Colossosoma.macropomum} \quad \text{IV} & \quad =\text{PL} \quad \text{TOP} \quad \text{3} \quad \text{IV} = \quad \text{many}
\end{align*}
\]

‘There were many tambaqui fish.’ (text: ‘When I was a child’)

Thus, the mass noun-specific quantifier ta’írî ‘a lot’ and its verbal root ta’î ‘be big, be abundant’ behave exactly parallel to the count noun-specific quantifier mu’rî ‘many’ and its verbal root mu’ ‘be numerous.’ In each pair, the derived form functions as a noun phrase quantifier, and the underived (verb root) form acts as a quantificational existential verb.
5.2 no³¹ʔre⁵ ‘few’

Just like mu¹ʔɨ̃⁴(\textit{ma}) ‘many,’ no³¹ʔre⁵ ‘few’ is unacceptable with mass nouns (33), except if the mass noun is coerced to a portion reading, as indicated by the comment.

(33) # no³¹ʔre⁵ ki³ ja¹ ju³'ki'ra¹
# few(II) DET(II) salt(II)

(Attempted: a few salts)

LWG’s comment: ‘But you could say this if someone asked you how many bags of salt you had.’

Instead of no³¹ʔre⁵ ‘few,’ mass nouns are quantified with i⁵¹ra³ʔɨ̃⁴ ‘a little’ (34).

(34) i⁵¹ra³kɨ³ ja¹ ju³'ki'ra¹
a.little/small(II) DET(II) salt(II)
‘a little bit of salt’ (elicited)

The quantifier i⁵¹ra³ʔɨ̃⁴ ‘a little,’ exactly like its mass-quantifying counterpart ta³¹ʔɨ̃⁴ ‘a lot,’ is derived from a lexical verb. This verb root is i⁵¹ra¹. When the verb i⁵¹ra¹ is predicated of a count noun or used to modify a count noun, it is read as a property concept ‘be small.’ It does not yield a quantificational reading, even when it occurs prenominally, in the syntactic position where a quantifier would appear (35).

(35) a. i⁵¹ra³ʔɨ̃⁴ i⁴ ĩ³¹a¹ne¹a³kɨ¹wa⁵ rɨ¹,
i⁵¹ra³ʔɨ̃⁴ a.little/small(IV)
i⁴ det(IV)
ĩ³¹a¹ne¹ town(IV) -a³kɨ¹ -dim =wa⁵ =all rɨ¹
In a small town (not: in a few towns),

b. wɨ⁴³ʔi⁴ i⁴ ã³ḛ¹ga³kɨ³ du¹ɨ̃³ʔɨ̃⁴gɨ⁴ka̰¹ ŋe³ma²gu² rɨ¹, gu⁵ʔɨ̃⁴ma³ i⁵na⁴ʎu³gɨ⁴.
wɨ⁴³ʔi⁴ one i⁴ det(IV) leader(IV) person =gɨ⁴ =pl =purp 3(IV)ΣBJ,sc = call.for =sub= top all(IV) =impf= na⁵ =Au³ =gi⁴
3(IV)ΣBJ= arrive =pl
When a political leader calls the people (to have a community meeting), everyone comes.

(But in bigger towns, they don’t.) (text: ‘Living in a small town’)

But while i⁵¹ra¹ means ‘small’ when it modifies or is predicated of a count noun, it functions as a quantificational existential verb ‘be little, i.e. not be abundant’ when predicated of a mass noun (36).

(36) Context: Describing a stream at the height of dry season.

na⁵?= i⁵¹ra¹=ʔɨ⁵tʃi² i⁴ de⁶ʔa³
3(IV)ΣBJ= a.little/small =really DET(IV) water(IV)
‘There’s very little water.’ (yard description)

Thus, the quantifier i⁵¹ra³ʔɨ̃⁴ ‘a little’ exhibits the same pattern as the quantifier ta³¹ʔɨ̃⁴ ‘a lot’ with respect to the contrast between mass and count nouns. Both items express quantification when combined with mass nouns, but size when combined with count nouns. Furthermore, this contrast extends to the verb roots from which the items are derived. The verb roots i⁵¹ra¹ ‘be small, little (quantity)’ and ta⁴³ ‘be big, abundant’ behave as quantificational existential verbs with mass subjects, but express size with count subjects.
5.3 ɲũ¹ʔre⁵ ‘how many?’

The interrogative quantifier ɲũ¹ʔre⁵ ‘how many?’ is also incompatible with mass nouns (37a). As with other quantifiers, coercion to a portion reading renders the item acceptable with mass nouns, per (37b).

(37) ɲũ¹ʔre⁵ i⁴ de⁹?a³ na⁴= balde =gu²? how.many DET(IV) water(IV) 3(IV)SBJ= Sp:bucket =LOC

’a. Unacceptable if the bucket is filled with uncontained water [volume reading of mass noun]

b. Acceptable if the bucket is filled with individual bottles of water [portion reading of mass noun]

In lieu of ɲũ¹ʔre⁵ ‘how many?’, questions about the quantity of mass nouns are asked with the quantifier (na³)ɲũ¹ʔra³ɨ̃³ʔɨ̃⁴ ‘how much?’ as in (38).

(38) Context: A bucket is filled with uncontained water.

na³ɲũ¹ʔra³ɨ̃³ʔɨ̃⁴ i⁴ de⁹?a³ na⁴= ɲe⁷ma⁴ i⁴ balde =wa⁵ how.much(IV) DET(IV) water(IV) 3(IV)SBJ= be.in.place DET(IV) Sp:bucket =ALL

‘How much water is in the bucket?’ (elicited)

The quantifier (na³)ɲũ¹ʔra³ɨ̃³ʔɨ̃⁴ ‘how much?’ is a nominalized form of the interrogative verb ɲũ¹ʔra³ɨ̃¹ ‘what size.’ This predicate is used to ask about physical properties of count nouns – most prominently size, but also color, as in (39).

(39) Context: Parent holding up marble to child.

da³¹ʔe² dem prox(I) ta⁴= ɲũ¹ʔra³ɨ̃¹ be.what.size/color

‘What color is this one?’ (conversation)

The quantifier (na³)ɲũ¹ʔra³ɨ̃³ʔɨ̃⁴ ‘how much?’ and the interrogative verb ɲũ¹ʔra³ɨ̃¹ ‘what size?’ are not derived from ɲũ¹ʔre⁵ ‘how many?:’ Rather, all three items are derived from the interrogative formative ɲũ¹ʔ, which also appears in interrogative words that are not involved in quantification, such as ɲũ¹ʔgu² ‘when?’

5.4 Quantifiers: Interim Summary

Ticuna has six quantifiers, other than numerals, which can combine with count nouns. Three of these quantifiers are also compatible with mass nouns, and three – the equivalents to ‘many,’ ‘few,’ and ‘how many?’ – are not. Exactly as we saw with plural marking and numerals, combining ‘many,’ ‘few,’ and ‘how many?’ with mass nouns is unacceptable, except under coerced portion readings of the mass noun.

Each quantifier which fails to combine with mass nouns has a counterpart quantifier which combines only with mass nouns. The count noun-specific quantifier mu¹ʔɨ̃⁴(ma³) ‘many’ corresponds to the mass noun-specific

I lack data about whether coercion of the mass noun to a partitive reading – for example, a scenario in (37) where the bucket is filled with the contents of many individual bottles of water – also allows ɲũ¹ʔre⁵ ‘how many?’ to combine with mass nouns.
quantifier _ta²ʔɨ̃⁴_ 'a lot.' Likewise, count _no³¹ʔre⁵_ 'few' corresponds to mass _i⁵¹ra³ʔɨ̃⁴_ 'a little,' and count _ɲṵ¹ʔre⁵_ 'how many?' corresponds to (_na')_ɲṵ¹ʔra³ʔɨ̃⁴_ 'how much?.' The mass noun-specific quantifiers are grammatically acceptable with count nouns, but with count nouns, they do not convey quantification. Instead, they are interpreted as property concept terms with size-related meanings, such as 'big' and 'small.' Thus, both unacceptability with count noun-specific quantifiers and acceptability with (quantificational readings of) mass noun-specific quantifiers represent diagnostics of the mass-count distinction in Ticuna.

6 Measure Phrases

Contemporary Ticuna does not have native-vocabulary units of measure. Instead, speakers express measurement using container terms. I call these constructions 'measure phrases,' but it would be equally accurate to label them 'container phrases.'

Ticuna measure phrases with mass nouns behave like count noun phrases for the purposes of plural marking, compatibility with numerals, and compatibility with count noun-specific quantifiers. For example, when LWG rejected the use of a numeral with a mass noun in (40a), she suggested two different constructions with numerals quantifying measure phrases, (40b) and (40c), as better alternatives.

(40b) and (c) demonstrate two different possible structures which Ticuna measure phrases can display. Which structure appears in a particular measure phrase is determined by the alienable vs. inalienable status of the container (i.e., measure) term. In (40b), the container-denoting noun _we³ɨ̃¹_ 'straight-sided container' is inalienable. As a result, it must be morphologically possessed by the numeral _ta²ʔre⁴_ 'two.' In (40c), the container-denoting noun _ta²ʔfā³¹_ 'bowl' (from Spanish _tazón_ 'bowl') is alienable. Consequently, it appears as a free word rather than a possessum. Whether the container term is inalienable (40b) or alienable (40c), it appears before the noun, in the syntactic position typical of quantifiers.footnote{7}

(40) a. _# ta²ʔre⁴_ i⁴ _de⁴³ʔa⁵_ =ʔɨ̃³ =acc tʃa³=1sg.sbj= see (Attempted: I saw two _waters._)

b. _ta²ʔre⁴_ =we³ɨ̃¹ _i⁴_ _de⁴³ʔa⁵_ =ʔɨ̃³ =acc 1sg.sbj= see 'I saw two _tanks_ of water.' (LWG's first volunteered correction to 40a.)

c. _ta²ʔre⁴_ i⁴ _ta²ʔfā³¹_ =ã³ku¹ _i⁴_ _de⁴³ʔa⁵_ =ʔɨ̃³ =acc 1sg.sbj= see 'I saw two _bowls_ of water.' (LWG’s second volunteered correction to 40a.)

What is interesting about container terms in Ticuna is that they are not limited to the noun phrase. Rather, container terms can also undergo incorporation into the verb phrase, provided that the verb and container term meet the language’s general morphosyntactic requirements for noun incorporation (e.g., the container term must be inalienable).

footnote{7}I do not have data on whether examples like (40b) and (40c) allow only interpretations involving concrete containers, or also interpretations referring to the quantities characteristic of those containers.
When a verb incorporates a container term, the container term appears as an enclitic to the verb and no longer appears on the mass-denoting noun phrase, as shown in (41).

(41) nu²a² na³= na⁴ *(−pi¹ʔi¹) ja⁴ ju’k’i’ra¹
     here IMP>3OBJ= transport:INamPlO *(−NI:bag) DET(II) salt(II)
     'Bring two bags of salt here.' (elicited)

Even though the container term is incorporated into the verb in (41), rather than appearing in the noun phrase, the mass noun object still behaves as count for purposes of plural marking. That is, the verb of the clause, which displays root alternations for number, appears in the plural form – a structure which would normally be unacceptable with a mass object (§3.2).

7 Conclusion

Evidence for the mass-count distinction is abundant in Ticuna. In the language’s system of plural marking, mass nouns are incompatible with both nominal and verbal plurals (§3). In the quantifier system, mass nouns cannot combine with numerals (§4), nor with three of the six quantifiers available to count nouns. Instead, mass nouns combine with three quantifiers which select only mass nouns (§5). Combining mass nouns with plural marking, numerals, and count noun-specific quantifiers requires either the use of a measure phrase (§6), or coercion of the mass noun to a portion reading (examples 12, 13, 23, a.o.).

For reasons of space, this paper did not discuss all forms of number marking and quantification which exist in Ticuna, particularly in the richly lexicalized domain of verbal number. Future research should examine whether number markers which were not described in this study – such as verbal plural enclitics and number-alternating verb suffixes – also systematically distinguish between mass and count arguments.

Last, data collected for this study provided no evidence for further countability distinctions within the class of nouns, such as a distinction between true and ‘fake’ or aggregate mass nouns. While only a limited number of nouns were tested, all substance-denoting nouns tested patterned together on criteria diagnosing the mass-count distinction, and all individual-denoting nouns patterned apart. Thus, future work should also examine whether Ticuna truly lacks aggregate mass nouns, as some nouns not explored in this study – for example, pa’nii’ ‘letter (document), written material’ – behave as aggregate mass nouns in other languages.
References


