Nominal Reference in a Tiered Lexicon: A Semantic Account of Noun Classifiers in Two Amazonian Languages

Stephanie Farmer & Zachary O’Hagan
University of California, Berkeley
Syntax and Semantics Circle
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1 Introduction

• The term ‘classifier’ is used to describe morphosyntactically and semantically heterogeneous systems in Amazonian languages, to the point that it is unclear whether this term describes a single grammatical category.

• Máíhìkì (Tukanoan) and Matsigenka (Arawak), two unrelated and geographically disparate languages of Peruvian Amazonia, are exemplars of this heterogeneity.

• Our goal here is to be more precise in delineating classifier systems in these two languages by examining more general semantic properties of the nominal lexicon – in particular, what is required of different nouns in these languages to establish reference?

• We find that elements that are usually described as classifiers can more usefully be described on a scale of nominal reference, taking into account animacy, alienability, and related phenomena.

• For these two reasons scholars frequently overlook subtle differences in these elements’ referential deficiency that may cause them to pattern morphosyntactically in different ways.

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1 We thank Lev Michael for hours of helpful conversation on the ideas presented here.

2 Máíhìkì is a Western Tukanoan language spoken by approximately 80 people along the Algodón, Napo, Putumayo, Sucusari, and Yanayacu rivers of northern Peru. Data here were collected as part of the Máíhìkì Documentation Project (NSF BCS #1065621), and with support from a Parker Huang Undergraduate Travel Fellowship and two Oswalt Endangered Language Grants. Examples are cited from Stephanie Farmer’s field notes (2010-2014) and from texts collected, transcribed, and parsed by Christine Beier, Lev Michael, Amalia Skilton, and Stephanie Farmer.

3 Matsigenka is a Kampan Arawak language spoken by ~10,000 individuals in the Urubamba and Manú river basins of southeast Peru. The data on which this paper is based comes primarily from Vargas Pereira et al. (2013), a corpus of 170 texts digitized by Christine Beier and parsed in FieldWorks Language Explorer (FLEx) by Lev Michael and Zachary O’Hagan. Example sentences extracted from this corpus are labeled with a three-letter code corresponding to the text title and a sentence number.
1.1 Noun Categorization

- Many languages of the world categorize the nouns in their lexicon in some way.

- [Aikhenvald 2003] provides a typology for noun categorization devices that differentiates between gender, noun classifiers, and numeral classifiers.

- **Gender** systems:
  - exhibit agreement processes within the NP or with the predicate
  - are typically small, closed classes
  - may be based on semantics (e.g., animacy, sex)

- **Noun classifier** systems:
  - need not exhibit agreement processes
  - may be large, open classes
  - contain elements that may be “swapped out” to change the meaning of a given noun
  - may grammaticalize as markers of syntactic functions

- **Numeral classifier** systems:
  - contain classificatory elements that are contiguous to numerals
  - may be a large, open class
  - need not exhibit agreement
  - are typically based on semantics

- Both Máñhı̂ and Matsigenka exhibit characteristics of all three types of systems.

- We focus on elements that in Aikhenvald’s typology might be labeled “noun classifiers” but that pattern quite differently in the two languages.

2. **Chierchia (1998) & Types**

- Chierchia (1998) proposes a typology of nominal reference, the ‘Nominal Mapping Parameter’

- Languages differ as to whether their nominal projections are argumental or predicative.
  - [+arg, −pred]: nouns are **argumental**, of type \(e\) (e.g., Mandarin), and refer to **kinds**
  - [−arg, +pred]: nouns are **predicative**, of type \(⟨e, t⟩\) (e.g., Italian), and are **properties**
  - [+arg, +pred]: nouns may be argumental or predicative, are of types \(e\) or \(⟨e, t⟩\) (e.g., English), and either refer to kinds or are properties.

- Kinds & Properties:
  - “From an intuitive, pretheoretical point of view, kinds are generally seen as regularities that occur in nature. They are similar to individuals like you and me, but their spatiotemporal manifestations are typically ‘discontinuous’”
“To any natural property, like the property of being a dog, there corresponds a kind, viz. the dog-kind. Conversely, any natural kind will have a corresponding property (the property of belonging to that kind)"

“What counts as kind is not set by grammar, but by the shared knowledge of a community of speakers. It thus varies, to a certain degree, with the context, and remains somewhat vague. Lexical nouns identify kinds. Complex nouns may or may not” (Chierchia 1998:348)

• Typeshifters:
  – Down-operator: takes a property and yields a kind
  – Up-operator: takes a kind and yields a property

![Figure 1: Chierchia’s ‘up’ and ‘down’ Operators](image)

• Chierchia assumes that the type of bare nouns is uniform within a given language, but we argue that the lexicons of Máíhìkì and Matsigenka are tiered (i.e., portions of the lexicon have different NMP specifications)

• We analyze Máíhìkì as having three tiers of nominal reference:
  – Tier 1: [+arg, −pred] (nouns are of type $e$)
  – Tier 2: [+arg, +pred] (nouns may be of type $e$ or $⟨e, t⟩$)
  – Tier 3: [−arg, +pred] (nouns are of type $⟨e, t⟩$)

• We analyze Matsigenka as having two tiers: one which corresponds to Máíhìkì Tier 1, and another which corresponds to Máíhìkì Tier 3

• We identify typeshifting elements in each language that allow nouns to traverse the tiers

• We now review evidence from both languages for evidence of a tiered system of reference
  – We focus on the lower (less referential) tiers in each language, and propose that these are the likely source of classifier-like elements

3 Máíhìkì

• The Máíhìkì lexicon may be divided into three tiers:
  1. a [+arg, −pred] tier, in which nouns are always argumental (of type $e$)
2. a $[+arg,+pred]$ tier, in which nouns may be either argumental (of type $e$) or predicative (of type $\langle e,t \rangle$)

3. a $[-arg,+pred]$ tier, in which properties (of type $\langle e,t \rangle$) do not have corresponding kinds, and therefore cannot be argumental unless first typeshifted

- Furthermore, the lexicon includes typeshifters (classifiers) of type $\langle\langle e,t \rangle,e \rangle$, which create new Tier 2 elements (new kinds)

### 3.1 Tier 1

- Tier 1 elements include most animate nouns in Máíñhìkì

- Nouns of this tier take the object suffix -re in object position

(1) nà yáírè sükähò bìgì

`nà` and-then
`yáí` jaguar
`-re` -OBJ embrace
`sükà` -TEL
`-gi` -3.SG.PAST.DECL

‘And then he embraced the jaguar’ (sj1.17.1)

- Tier 1 items take the plural suffix -na and trigger subject number agreement on the verb

(2) ímínà téáhàyè yòòyì téá

`ímì` -na
`téáhàyè` work
`yòò` -3.PL.PRES.DECL
`yì` also
`téá` likewise

‘The men work likewise’ (ch1.27.1)

- Tier 1 items must be count

- Because bare Tier 1 items may appear as the arguments of verbs, we analyze them as $+arg$

### 3.2 Tier 2

- Elements of Tier 2 include most inanimate nouns

- These elements can appear alone (bare) as the arguments of verbs, as with wèè ‘house’ in (3)

(3) a. wèè úúhìgì

`wèè` house
`úú` burn.
`-hì` -TEL
`-gi` -3.SG.MASC.PAST.DECL

‘the/a house burned down’ (NMM.SJF.9feb2013)

b. yi wèè bááyì

`yi` I
`wèè` house
`báá` -1SG.PRES.DECL

‘I have a house’ (EMM.SJF.28jan2013)

- Tier 2 elements take the plural suffix -ma and do not trigger subject number agreement
• A Tier 2 element may appear as the possessum in a possessive construction

(5) a. hánò yì mì gónó ụkúbi mì weè
   hánò yì mì gónó ụkú -bi mì weè
   now I your manioc.beer drink -1.SG.PAST.DECL your house
   ‘Now I drank your manioc beer in your house’

b. mì ğërè yọ̀ọ̀kò bàìkò mì weè kátò?
   mì ğërè -re yọ̀ọ̀ -ko bàì -ko mì weè
   you what -NON.SUBJ do -FEM.SG.SS.SIM live -FEM.SG.PRES.INTERR your house
   kátò?
   there
   ‘What do you do at your house?’ (lim.158.1)

• Tier 2 elements may be either mass or count
  – Mass nouns are distinguished from count nouns by their inability to take the specific plural suffix -ma and their inability to appear in numeral constructions

(6) a. *hásòmà
   hásò -ma
   manioc -INAN.SP.PL
   attempted: ‘some/the manioc’ (NMM.SJF.24jan2013)

b. *ókómà
   ọkó -ma
   water -INAN.SP.PL
   attempted: ‘some/the waters’ (NMM.SJF.24jan2013)

c. wèmà
   wè -ma
   house -INAN.SP.PL
   ‘some/the houses’ (HMR.SJF.17jan2013)

d. hítímà
   hítì -ma
   hand -INAN.SP.PL
   ‘some/the hands’ (amn.85.1)

• Because Tier 2 elements may surface bare as the arguments of verbs, we propose that they may be of type $e$

• Because they may take noun classifier suffixes (discussed below), we propose that they may also be predicates of type $\langle e, t \rangle$
3.3 Tier 3

- Tier 3 elements are characterized by their inability to surface bare as the arguments of verbs
  - verbal roots
  - numeral roots
  - adjectival roots
  - certain nominal roots

- Verbal roots may be differentiated from nominal roots in that they may take verbal inflection

(7) hérérè báárò ọó kwàkôyi

héré -re báá -ro ọó kwàkö -yi
peel -SS_SEQ enormous -CL:concave plantain cook -1.PL.PRES.DECL

‘After peeling, we cook the plantain in an enormous pot’ (jal.46.1)

- Verb roots may also be nominalized via a classifying suffix, as below

(8) ìàyò, kwàkôrò níóyì

ìàyò, kwàkò -ro níó -yi
sister cook -CL:concave set -1.SG.FUT.DECL

‘Sister, I’m going to set the cooking pot down.’ (sja.28.1)

- Adjectival and numeral roots must take a classifying suffix in order to surface as a nominal argument of a verb

(9) a. máhèìrò ìíchì

máhèi -ro ìíchì
red -CL:concave give

‘Give me the red pot’ (SJF.LTN.9feb2013)

b. tèrò kíóórò hàírò bááyì

tè -rò kíó -ro hàí -ro báá -yi
one -CL:concave metal -CL:concave big -CL:concave have -1SG.PRES.DECL

‘I have one big metal pot’ (NMM.SJF.8feb2013)

- In addition to adjectival, numeral, and verbal roots, Tier 2 elements also include many body parts and other part terms, shown below in Table 1

- Crucially, these part terms may not be possessed

(10) *yì chóó

yì chóó
my head

(attempted: ‘my head’)
Table 1: Tier 3 Part Terms

<table>
<thead>
<tr>
<th>Form</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>chóó</td>
<td>head</td>
</tr>
<tr>
<td>hèè</td>
<td>thigh</td>
</tr>
<tr>
<td>káá</td>
<td>branch</td>
</tr>
<tr>
<td>kótì</td>
<td>chest</td>
</tr>
<tr>
<td>tárá</td>
<td>bone</td>
</tr>
<tr>
<td>tíká</td>
<td>stick</td>
</tr>
<tr>
<td>túrí</td>
<td>room</td>
</tr>
<tr>
<td>úké</td>
<td>nose</td>
</tr>
<tr>
<td>yòò</td>
<td>mouth</td>
</tr>
</tbody>
</table>

- Tier 3 elements also exhibit characteristics of a mass/count distinction
  - A subset of Tier 3 elements are made singular or plural via -bi and -ma, respectively

(11) a. dáà kíúr máítà chóó bi hóò yòò

\[
\text{dáà kíú \ -ri} \quad \text{máí =tà chóó -bi hóò}
\]

bring metal -CL:manufactured we =INFO head -SING break.open

\[-yo\]
\[-1.PL.FUT.DECL\]

‘Bring a machete; we’re going to break open the head’ (EMR.SJF.27jun2013)

b. háíkò chóó má dà̀ ñíòrè... hóò

\[
\text{bái kò chò -ma née -re ŋiò -re}
\]

tapir head -INAN.SP.PL make -SS.SEQ set -SS.SEQ

‘after putting down the tapir heads...’ (f.ï.25.1)

c. ...ī kótìb tòtèyèrèhó yí

\[
\text{ū kótì -bi tòtè yèrè -hó -yi}
\]

his chest -SING pierce.PLACT tear.PLACT -TEL -1.SG.FUT.DECI

‘I will rip open his chest (with arrows)’ (mbd 151.1)

- When these nouns are made singular or plural, they assume the properties of Tier 2 nouns
  - They may now be possessed (11); the singular, -bi-marked form may refer to a kind

- A striking characteristic of -bi is that it does not pick out a single member of a kind, as the defining characteristic of Tier 3 elements is that there is no kind associated with the property in question
  - Instead, it picks out the canonical entity associated with that property
  - -ma picks out multiple of those entities
• For instance, the Tier 3 predicate sáyí means something like ‘bristled’, and sáyíbì and sáyímà mean ‘a broom’ and ‘multiple brooms’, respectively.

• Because Tier 3 elements can never appear bare as the arguments of verbs and must be typeshifted in order to become referential, we analyze them as $[-\text{arg}, +\text{pred}]$

3.4 Typeshifters

• Máňhìkì has a repertoire of classificatory suffixes that may combine with predicates of type $\langle e, t \rangle$ to yield new kinds; we propose that their type is therefore $\langle\langle e, t \rangle, e \rangle$.

<table>
<thead>
<tr>
<th>Form</th>
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</tr>
</thead>
<tbody>
<tr>
<td>-ńaka</td>
<td>pointy things</td>
</tr>
<tr>
<td>-ogu</td>
<td>stout, hollow cylinders</td>
</tr>
<tr>
<td>-da</td>
<td>bodies of water</td>
</tr>
<tr>
<td>-deo</td>
<td>round, shallow and concave things</td>
</tr>
<tr>
<td>-yia</td>
<td>oblong things</td>
</tr>
<tr>
<td>-yo</td>
<td>slender sticks; digits</td>
</tr>
</tbody>
</table>

Table 2: Máňhìkì Noun Classifiers

(12) a. hàsòyìà
    hàsò -yìa
    manioc -CL:oblong
    ‘manioc tuber’ (TIER 2 + CLASSIFIER)

b. tótòdèò
    tótò -deo
    clay -CL:shallow.disc
    ‘clay dish’ (TIER 2 + CLASSIFIER)

c. tóyáńakà
    tóyá -ńaka
    write -CL:pointy
    ‘pencil’ (TIER 3 + CLASSIFIER)

3.5 Count Nouns as Classifiers

• Elements of Tiers 2 and 3 may have a typeshifting ability as well; they are ‘repeater’ classifiers

(13) a. chóòbì yàríchò
    chóò -bi yàrí -cho
    head -SING small -CL:head
    ‘a/the small head’

b. türìbì tètùrì
3.6 Máñhìkì Summary

- The Máñhìkì lexicon may be divided into three tiers: \([+\text{arg}, -\text{pred}]\), \([+\text{arg}, +\text{pred}]\), and \([-\text{arg}, +\text{pred}]\).
- These tiers are sensitive to animacy/inanimacy and mass/count distinctions.
- What would likely be called “noun classifiers” in Aikhenvald’s typology are the count nouns of Tiers 2 and 3, plus the typeshifters which may no longer be considered roots.

<table>
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<tr>
<th>Count</th>
<th>NMP Value</th>
<th>Type(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>([+\text{arg}, -\text{pred}])</td>
<td>e</td>
</tr>
<tr>
<td>Tier 2</td>
<td>([+\text{arg}, +\text{pred}])</td>
<td>((e, t))</td>
</tr>
<tr>
<td>Tier 3</td>
<td>([-\text{arg}, +\text{pred}])</td>
<td>((e, t))</td>
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<td>Classifier</td>
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<td>e</td>
</tr>
<tr>
<td>Classifier</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

4 Matsigenka

- The nominal lexicon is exhaustively categorized along three axes, each with two values:
  - Gender \([\pm \text{feminine}]\): subjects & objects cross-referenced on verbs; possessors cross-referenced on possessums; nominal heads cross-referenced on adjectival modifiers.
  - Animacy \([\pm \text{animate}]\): positive existential verb; nominal heads cross-referenced on numeral and adjectival modifiers; certain interrogative pronouns.
  - Alienability \([\pm \text{alienable}]\): different morphological behavior confined to the NP in possessed and non-possessed contexts.
- The domain of alienability in Matsigenka can be schematized as in Figure 2.
- The domain of alienability lends itself to description in terms of two ‘tiers’:
  1. Alienable nouns: \([+\text{arg}, -\text{pred}]\), argumental, kinds
  2. Inalienable nouns: \([-\text{arg}, +\text{pred}]\), predicative, properties
- Furthermore, the lexicon includes typeshifters of various sorts, more than Máñhìkì (§4.3).
- The division between tiers in Máñhìkì is more sensitive to animacy, whereas in Matsigenka is sensitive solely to alienability.
4.1 Tier 1: Alienable Nouns

- Generally speaking, alienable nouns in Matsigenka include all non-kin animates, certain kin terms, flora and fauna species, and certain manufactured objects (e.g., baskets)

- The defining criterion for alienable nouns in Matsigenka is that they can surface without any additional morphology – which we will refer to as ‘bare’ – as in (14)

(14) ...inpankitakera shinki.

\[ i-\ n-\ panki\ -t\ -ak\ -e\ =ra\ \text{shinki} \]

3mS- IRR- plant -EP C -PERF -IRR.I =SUB corn

‘...first he should plant corn...’ (isb13)

- When verbal object enclitics are absent, the interpretation of bare alienable nouns is as a kind, as exemplified in (14), and also in (15)

(15) Naro nogavintsata ... shima, kemari, osheto ...

\[ naro\ \ n-\ og\ -a\ -vintsa\ -t\ -a\ \text{shima\ kemari\ osheto\ maniro} \]

1.PRO N- eat -EP V -INCL -EP C -REAL.A fish tapir howler.monkey deer

Spanish: ‘A mí me gustan ... pescado, sachavaca, mono, venado...’

English: ‘I like [i.e., to eat] ... fish, tapir, monkey, deer...’ (mto25)

- When alienable nouns are possessed, they exhibit a possessive prefix and an allomorph of the alienable possession suffix -ne ~ -te A.P, as in (16)

- -ne occurs with two-syllable roots, while -te occurs with three-syllable ones

- Root-initial /p/ and /k/ voice when possessed, independent of the (in)alienable status of the root in question
(16) a. ...tononkavagetake oshinkine.
   tononk -a -vage -t -ak -i =Ø o- shinki -ne
   grind -EPV-DUR -EPC-PERF -REAL.1 =3S 3fP- corn -A.P
   ‘...grinding her corn.’ (art32)
b. gaigaririra imarankete TRISYLLABIC
   og -a -ig -a =ri =riru i- maranke -te
eat -EPV -PL -REAL.A =3mO =REL 3mP- snake -A.P
   ‘those who eat their snakes’ (ine4)

• Alienable nouns are pluralized directly – i.e., without additional morphology – with either the
  ‘specific plural’ -egi or the ‘kind plural’ =page

(17) a. ...ipaigakerira virakochaegi.
   i- p -a -ig -ak -i =ri =ra virakocha -egi
   3mS- give -EPC -PL -PERF -REAL.1 =3mO =SUB white.man -PL:SPEC
   ‘...and they gave them [i.e., Matsigenka women] to the white men.’ (iim13)
b. ...ganiri ishigaiga shimapage.
   ga neg:irr =niri =purp:irr i- shig -a -ig -a shima =page
   NEG:IRR =PURP:IRR 3mS- escape -EPV -PL -REAL.A fish =PL:KIND
   ‘...so that the fish do not escape.’ (ikg8)

4.2 Tier 2: Inalienable Nouns

• Matsigenka Tier 2 consists of inalienable nouns and corresponds to Măihę Tier 3

• Unlike alienable nouns, inalienable nouns cannot surface bare, but must receive additional
  morphological “assistance” of some sort

• One subclass of inalienable nouns – body parts, certain kin terms, and certain manufactured
  objects (e.g., houses, canoes) – may be “assisted” via possession, as in (18) (see Figure 2)
  – When possessed, they do not receive the alienable possession suffix -ne ~ -te

(18) ...ovashi opotakotanakero ovanko.
   ovashi o- po -t -ako -t -an -ak -i =ro o- panko
   then 3fS- burn -EPC -APPL:INDR -EPC -ABL -PERF -REAL.1 =3fO 3fP- house
   ‘...then she set fire to her house.’ (art42)

• The same subclass is differentiated by whether its members may be made alienable via the
  “alienating” suffix -(n)tsi, which derives a kind
  – Roots of two syllables take -tsi, while roots of three or more syllables take -ntsi

4Unlike -egi =page is analyzed as a second-position clitic with respect to the noun phrase, as it attaches to prenominal
adjectival modifiers when present.
Kin terms may not be made alienable in this way.

All other nouns of this subclass may, as shown for panko ‘house’ in (19)

(19) ...ovashi intsimankaigakerora pankotsi.

\[\text{ovashi} \ i- \ n- \ tsimank \ -a \ -ig \ -ak \ -e \ =ro \ =ra \ \text{panko} \ -tsi\]

thus 
\[\text{3mS} \ - \ \text{IRR} \ - \ \text{shade} \ - \ \text{EPV} \ - \ \text{PL} \ - \ \text{PERF} \ - \ \text{IRR}.1 \ =3\text{fO} \ = \ \text{SUB} \ \text{house} \ - \ \text{ALIEN}\]

‘...thus they will shade the house.’ (ova19)

- Unlike alienable nouns, inalienable nouns may not be pluralized without additional morphological assistance, which may take the form of possession, as in (20)

(20) a. Ipokaigai ivankoegiku...

\[\text{SPECIFIC PLURAL}\]
\[\text{i-} \ \text{pok} \ -a \ -ig \ -a \ -i \ \text{i-} \ \text{panko} \ -\text{egi} \ =ku\]

\[3\text{mS} \ - \ \text{come} \ - \ \text{EPV} \ - \ \text{PL} \ - \ \text{REG} \ - \ \text{REAL}.1 \ \text{3mP} \ - \ \text{house} \ - \ \text{PL}: \text{SPEC} \ = \ \text{LOC}\]

SPANISH: ‘Volvieron a sus casa...’

ENGLISH: ‘They returned to their houses...’ (ine37)

b. ...ikiageiganaira ivankopageku.

\[\text{KIND PLURAL}\]
\[\text{i-} \ \text{ki} \ -a \ -ge \ -ig \ -an \ -a \ -i \ =ra \ \text{i-} \ \text{panko} \ =\text{page}\]

\[3\text{mS} \ - \ \text{enter} \ - \ \text{EPV} \ - \ \text{DISTR} \ - \ \text{PL} \ - \ \text{ABL} \ - \ \text{REG} \ - \ \text{REAL}.1 \ = \ \text{SUB} \ \text{3mP} \ - \ \text{house} \ = \ \text{PL}: \text{KIND}\]

\[=ku\]

\[=\text{LOC}\]

SPANISH: ‘...[escuchó muchas voces de varias personas] entrando a sus casas.’

ENGLISH: ‘...[he heard many voices of various people] entering their houses.’ (ktr34)

- Derived alienable nouns behave morphosyntactically like inherently alienable ones (21)

- When possessed, they take -ne ∼ -te (21a); and they may be pluralized directly (21b,c)

(21) a. ...viroegiratyo gaigiri novatsatsite!

\[\text{POSSSESSION}\]
\[\text{viro} \ -\text{egi} \ =\text{ratyo} \ \text{ag} \ -a \ -ig \ -i \ =ri \ \text{no-} \ \text{patsa} \ -\text{tsi} \ -\text{te}\]

\[2\text{PRON} \ - \ \text{PL}: \text{SPEC} \ = \ \text{REALZ} \ - \ \text{take} \ - \ \text{EPV} \ - \ \text{PL} \ - \ \text{REAL}.1 \ = \ \text{3mO} \ \text{1P} \ - \ \text{meat} \ - \ \text{ALIEN} \ - \ \text{A}.P\]

‘...you were the ones that took my meat!’ (spn17)

b. ...onti yakipaigiri ivatsatsiegite...

\[\text{SPECIFIC PLURAL}\]
\[\text{o-} \ \text{nti} \ \text{i-} \ \text{akipa} \ -\text{ig} \ -i \ =ri \ \text{i-} \ \text{patsa} \ -\text{tsi} \ -\text{te}\]

\[3\text{S} \ - \ \text{COP} \ \text{3mS} \ - \ \text{wrap}.in.leaf \ - \ \text{PL} \ - \ \text{REAL}.1 \ = \ \text{3mO} \ \text{3mP} \ - \ \text{meat} \ - \ \text{ALIEN} \ - \ \text{PL}: \text{SPEC} \ - \ \text{A}.P\]

SPANISH: ‘...los envolvían en hojas a sus presas...’

ENGLISH: ‘...they wrapped their meats in leaves [i.e., before pots]...’ (yvk1)

c. ...yakisaviigirira ivatsatsitepage.

\[\text{KIND PLURAL}\]
\[\text{i-} \ \text{akisa} \ -\text{pi} \ -\text{ig} \ -i \ =ri \ =ra \ \text{i-} \ \text{patsa} \ -\text{tsi} \ -\text{te} \ =\text{page}\]

\[3\text{mS} \ - \ \text{conserve} \ - \ \text{CL} \ - \ \text{PL} \ - \ \text{REAL}.1 \ = \ \text{3mO} \ = \ \text{SUB} \ \text{3mP} \ - \ \text{meat} \ - \ \text{ALIEN} \ - \ \text{A}.P \ = \ \text{PL}: \text{KIND}\]

SPANISH: ‘...sabían poner en paca sus carnes.’

ENGLISH: ‘...they knew how to put their meats in bamboo.’ (yvv1)
Table 4: Some Matsigenka (In)alienable Nouns

<table>
<thead>
<tr>
<th></th>
<th>Alienable</th>
<th>Inalienable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bare</td>
<td>grammatical</td>
<td>ungrammatical</td>
</tr>
<tr>
<td>-(n)tsi</td>
<td>ungrammatical</td>
<td>grammatical</td>
</tr>
<tr>
<td>Possession</td>
<td>PREFIX- ... -ne ~ -te</td>
<td>PREFIX-</td>
</tr>
<tr>
<td>Pluralization</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

- A different subclass of inalienable nouns cannot be possessed nor be made alienable via -(n)tsi
  - Plant parts, e.g., tsego ‘branch’, poa ‘trunk’, tsa ‘liana’
  - Boundary terms, e.g., tsiti ‘beginning’, yashi ‘end’, nampina ‘side’
  - Natural phenomena, e.g., a ‘water’, tishi ‘mountain’

- Nevertheless, two morphosyntactic properties are characteristic of inalienable nouns of this subclass that are not characteristic of the subclass just discussed

- First, kinds are derived from them via the prefixation of “dummy” o- (22)
  - Importantly, dummy o-, unlike real possessive o- (see (18)), does not induce voicing

  (22) a. ...onanpinaku onti ventsaenkankicha otega...
      o- nampina =ku o- nti oventsaenk -ankich -a o- tega
      DMY- side =LOC 3fS- COP line.up -SUBJ.FOC -REAL.A DMY- flower
      ‘...along the side there were flowers lined up...’ (mae3)
  b. ...ogari okana inti itomiegi.
      o- 3f- oga =ri o- kana i- nti i- tomi -egi
      3f- DEM =CNTR DMY- bunch 3mS- COP 3mP- son -PL:SPEC
      ‘...the bunches are the children.’ (par9)
  c. ...irogoigakerora otsantsa...
      i- r- ogo -ig -ak -e =ro =ra o- tsantsa
      3mS- 1RR- measure -PL -PERF -IRR.1 =3fO =SUB DMY- length
      ‘...[they will begin by] measuring it lengthwise...’ (ova24)

- Second, they may form the head of a compound involving an alienable noun (23)

  (23) a. ...ovashi oshitati pariantipana.
      ovashi o- shita -t -i parianti -pana
      then 3fS- place.ground.cover -EPC -REAL.1 plantain -broad.leaf
      ‘...and then she laid out plantain leaves on the ground.’ (okm25)

\(^5\text{We take the inability of kin terms to be made alienable to derive from their inherent relationality (e.g., one is never a son without being someone’s son).}\)
b. ...agashitakitirira kamagarinivenkiki...
   
   o- ag -ashi -t -aki -t -i =ri =ra kamagari -venkiki
   
   3IS- fetch -INT -EPC -AM:DIST -EPC -REAL.1 =3mO =SUB demon -sedge

   ‘...[she ran] to fetch demon sedge...’ (art38)

c. Naguteta kamonasanpi...

   n- ag -u -t -e =ta kamona -sanpi
   
   1S- fetch -RET -EPC -IRR.E =INT palm.sp. -firewood

   ‘I will go fetch firewood from the kamona palm...’ (kts29)

4.3 Types & Typeshifters

- The types of the morphological elements described so far are summarized below
  
  - Alienable nouns = e
    
    * They are inherently argumental and denote kinds
  
  - Possessable inalienable nouns = ⟨e, t⟩
    
    * They are inherently predicative and are properties
  
  - Unpossessable inalienable nouns = ⟨e, e⟩
    
    * They combine in a compound with an argumental, alienable noun denoting a kind, returning an argumental, alienable noun denoting a kind
  
  - ne ~ -te = ⟨e, ⟨e, t⟩⟩ (up-operator)
    
    * It combines with an argumental, alienable noun denoting a kind, returning a predicative, inalienable noun that is a property (i.e., that can then be possessed)
  
  - Possessive prefixes and -(n)tsi = ⟨⟨e, t⟩, e⟩ (down-operators)
    
    * They combine with a predicative, inalienable noun that is a property, returning an argumental, alienable noun denoting a kind
  
  - Dummy o- = ⟨⟨e, e⟩, e⟩ (down-operator)
    
    * It combines with a “special” inalienable noun of type ⟨e, e⟩, returning an argumental, alienable noun denoting a kind

- Inalienable nouns are of two types in Matsigenka, ⟨e, t⟩ and ⟨e, e⟩, there is a single up-operator, and there are three morphological down-operators of two semantic types (Figure 3)

![Figure 3: Typology of Matsigenka Typeshifters](image)

- Unlike in Máiñkã, Matsigenka’s typeshifters consist of three morphemes
- ne ~ -te, -(n)tsi, and o-
- None of these exhibit any obvious nominal or classifier-like semantics (see below)

- Matsigenka provides important evidence for the validity of typeshifters in Chierchia’s ontology, since they are morphologically overt

<table>
<thead>
<tr>
<th>NMP Value</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>[+arg, -pred]</td>
</tr>
<tr>
<td>Tier 2</td>
<td>[&amp;neg;arg, +pred]</td>
</tr>
<tr>
<td>-ne ~ -te</td>
<td>-</td>
</tr>
<tr>
<td>Poss. Pre.</td>
<td>-</td>
</tr>
<tr>
<td>-(n)tsi</td>
<td>-</td>
</tr>
<tr>
<td>Dummy o</td>
<td>-</td>
</tr>
</tbody>
</table>

### 4.4 Where are the classifiers in Matsigenka?

- Systems like that in Matsigenka have been described as ‘multiplier classifier’ systems, e.g., for closely related Nanti (Michael 2008:332-339)
  - In this framework, the compounds in (33) are analyzed as involving ‘noun classifiers’ (see also Michael (2013:164-165) and Shepard (1997))
  - We have seen that these compounds derive new referents, hence the ‘derivational’ function of classifiers in systems such as this
    * This is opposed to a ‘classificatory’ function, by which classifiers indicate spatio-configurational properties of referents instead of deriving new referents
  - This begs the question: are there morphosyntactic environments in which some element is classificatory instead of derivational in Matsigenka?

- Inalienable nouns also appear in numerals, adjectives, and verbs, with a classificatory function
  - In our corpus, inalienable nouns in compounds never exhibit a classificatory function

(24) a. ...ipavakeri paponaniro irakipare.
    i- p -av -ak -i =ri pa -pona -niro ir- akipare
    3mS-give -TRNS -PERF -REAL.1 =3mO one -CL:bundle -ANIM 3mP- patarashca
    ‘...he gave him a [grub-filled] patarashca.’ (kps19)

b. ...taekatsavagetankicha maranke.
    ontaek -a -tsa -vage -t -ankich -a maranke
    pile.up -EPV -CL:liana.like -DUR -EPC -subj.SOC -REAL.A snake
    ‘...and there were many snakes piled up around the edge.’ (mrn50)

- An inalienable noun in this context may classify a noun that is formally identical to it

(25) ...onti itsotegati otegapage.
‘...it lives sucking flowers [i.e., a hummingbird].’ (opt15)

- However, inalienable nouns in numerals and verbs may also exhibit a derivational function

  (26) a. ...yovenatainiri panakitiro igirimashi.  
      i- ove-na -t -a -i =ni =ri pa -naki -tiro i-  
      3mS- bore -EPC -REG -REAL.1 =APPL: BEN =3mO one -CL(?): hole -INAN 3mP-  
      girimashi  
      nose  
      ‘...he bored out one nostril.’ (mt1.22)

  b. ...okurigiigapaakero shinki...  
      o- kurig -ki -ig -apa -ak -i =ro shinki  
      3FS- pull off -CL(?): seed -PL -ALL -PERF -REAL.1 =3fO corn  
      ‘...they pulled off the kernels of corn...’ (mgr11)

- The correlation between morphosyntactic distribution and either derivational or classificatory function requires further research (elicitation)
  - However, we find no reason to analyze noun classifiers 
    per se as classifiers

- We suspect that the semantic type of truly classificatory elements in Matsigenka (24)-(25) is distinct from those discussed until this point
  - Thus homophonous morphemes may be of different semantic types (see (25))

5 Summary & Conclusions

- Máñáñá and Matsigenka have strikingly dissimilar “classifier” systems, although some elements in both languages might be given the same label in Aikhenvald’s typology

- We posit that it has been tempting to treat these phenomena under the same umbrella, particularly in Amazonian languages, for two main reasons:
  - these elements occupy similar semantic spaces
  - these elements are semantically dependent, and therefore rarely surface alone

- We have shown that a type-theoretic approach to these elements may help to explain the way they pattern crosslinguistically or within a given language

- In particular, the notion of a tiered lexicon, sensitive to distinctions in animacy, can provide insight into the origins and idiosyncracies of a classifier-like system within a language

- Question for discussion: would it be more useful to abandon the term ‘classifier’ and instead develop a typology of referentially deficient nouns?
References


VARGAS PEREIRA, HAROLDO; JOSÉ VARGAS PEREIRA (AUTHORS); LEV MICHAEL; CHRISTINE BEIER; and ZACHARY O’HAGAN (COMPILERS). 2013. Matsigenka Text Corpus (v. June 2013). ms.
Table 6: Overlap in non-Tier 1 elements in Máihìki and Matsigenka

<table>
<thead>
<tr>
<th>Máihìki</th>
<th>Matsigenka</th>
<th>Máihìki meaning</th>
<th>Matsigenka Meaning</th>
</tr>
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<tbody>
<tr>
<td>gūhı́</td>
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<td>tooth</td>
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<td>ako</td>
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<td>hand, arm</td>
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<td>ani</td>
<td>fluid</td>
<td>fluid</td>
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<td>enka</td>
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<td>air, smoke, power</td>
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<td>ear</td>
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<td>gereto</td>
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<td>knee, bamboo joint</td>
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<td>girimashi</td>
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<td>seed, small fruit</td>
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<td>rishi</td>
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<td>seguto</td>
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