

On Exuberant Noun Categorization in Matsigenka (Arawak): Gender, Animacy, and a Multiple Classifier System*

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Gender and Classifiers: Areal and Genealogical Perspectives
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1 Introduction

- In this talk we describe three noun categorization systems (Aikhenvald 2003) in Matsigenka
 - Kampan Arawak language of southeastern Peruvian Amazonia (Snell 2011)
 - ~10,000 speakers in the Urubamba and Manú river basins
- The Matsigenka nominal lexicon is exhaustively categorized along two axes, which obligatorily control agreement on targets (Corbett 2006) of several word classes
 - Gender [masc, fem]:
 - * Verbs covary in gender with third-person subjects and objects
 - * Possessums covary in gender with their third-person possessors
 - * Demonstratives covary in gender with the nouns they modify
 - * A small class of adjectives covary in gender with the nouns they modify
 - Animacy [anim, inan]:
 - * The positive existential verb covaries in animacy with its subject
 - * Numerals and a subset of adjectives covary in animacy with the nouns they modify
 - * Interrogative pronouns covary in animacy with their anaphor
- The Matsigenka nominal lexicon is non-exhaustively categorized along a third axis
 - Classifiers appear non-obligatorily in multiple syntactic environments, and are thus an example of a ‘multiple classifier’ system (Aikhenvald 2003:204)
 - * They occur suffixed to nouns, numerals, adjectives, and verbs
 - Classifiers occupy a position on a continuum of morphosyntactic and semantic properties that relate them to inalienable nouns (Farmer & O’Hagan 2014)

*The data on which this talk is based comes from a corpus of 170 texts developed by the authors and colleagues (Vargas Pereira et al. 2013), as well as from elicitation carried out with Maribel Kaibi Omenki. Data from the former source is cited with a three-letter text code and sentence number; data from the latter source is cited as ‘MKO’.

2 Gender

- Matsigenka exhibits a binary gender distinction

- *i-* MASC and *o-* FEM: verbal subjects (1), nominal possessors (2), demonstratives (3), coordination (4), and adjectives (6)
- *=ri* MASC and *=ro* FEM: verbal objects (5)¹

(1) VERBAL SUBJECT

- a. ...gara ikami shima. MASCULINE

gara i- kam -i shima
NEG 3mS- die -REAL.I fish

‘...the fish won’t die.’ (ijm14)

- b. Tyara okanti noniriva? FEMININE

tyara o- kant -i no- niriva
what 3fS- say -REAL.I 3fP- daughter.in.law

‘What is my daughter-in-law saying?’ (shr57)

- Matsigenka exhibits possessum-possessor ordering, where the possessum, when the possessor is third-person, bears a prefix covarying in gender with the possessor

(2) NOMINAL POSSESSOR

- a. ...irogakenparira ivatsa maeni... MASCULINE

i- r- og -ak -enpa =ri =ra i- patsa maeni
3mS- IRR- eat -PERF -IRR.A =3mO =SUB 3mP- flesh bear

‘...[he won’t be able to] eat bear meat...’ (iks8)

- b. ...iroviikakenpa oani tanko... FEMININE

i- r- oviik -ak -enpa o- ani tanko
3mS- IRR- drink -PERF -IRR.A 3mP- juice nettles

‘...he will drink nettle juice...’ (ism13)

- Demonstratives precede nouns, and bear a prefix covarying in gender with the modified noun

(3) DEMONSTRATIVE

- a. Yoka kamagarini...ikoneatimoigiri... MASCULINE

i- oka kamagarini i- konea -t -imo -ig -i =ri
3m- DEM:PROX demon 3mS- appear -EPC -APPL:PRES -PL -REAL.I =3mO

‘[Long ago] this demon appeared before [them]...’ (suv3)

- b. Pagiro, pokagitenaro oka shinki. FEMININE

pagiro p- okagi -t -e =na =ro o- oka shinki
aunt.VOC 2S- toast -EPC -IRR.I =1O =3fO 3f- DEM:PROX corn

‘Aunt, toast this corn for me.’ (kop64)

¹Matsigenka exhibits traces of a split-S alignment, in which case enclitics express verbal subjects.

- *ntiri* conjoins DPs and bears a prefix covarying in gender with the rightward conjunct

(4) COORDINATION

- a. Itentaka ijina **intiri** itomi... MASCULINE

i- *tent* *-ak* *-a* *i-* *jina* **i-** **ntiri** *i-* *tomi*
 3mS- accompany -PERF -REAL.A 3mP- wife 3mS- COORD 3mP- son

‘He came with his wife and his son...’ (its2)

- b. ... itovaenkaegi iriri **ontiri** iriniro.’ FEMININE

i- *tovaenka* *-egi* *ir-* *iri* **o-** **ntiri** *ir-* *iniro*
 3mP- full.sibling -PL 3mP- father 3fS- COORD 3mP- mother

‘... the full siblings of his father and mother.’ (its3)

(5) OBJECT ENCLITIC

- a. Pitsavetirikari matsontsori. MASCULINE

pi- *tsave* *-t* *-i* **=ri** *=kari* **matsontsori**
 2S- summon.by.bad.acts -EPC -REAL.I =3mO =WARN jaguar

‘Watch out, you’ll summon the jaguar.’ (art28)

- b. Inepaakerora kipatsi... FEMININE

i- *ne* *-apa* *-ak* *-i* **=ro** *=ra* **kipatsi**
 3mS- see -ALL -PERF -REAL.I =3fO =SUB land

‘Upon seeing the land...’ (chn26)

2.1 Gender and the Lexicon

- Humans are categorized as masculine or feminine in accord with biological sex
- Animals as species are assigned a semantically non-transparent gender (Emlen 2014:313-314)
- Individuals may be treated as masculine or feminine, if their biological sex is salient
 - Typically masculine: mammals, snakes, fish, and social insects
 - Typically feminine: non-snake reptiles, amphibians, molluscs, crabs, non-social insects
- All masculine entities are obligatorily animate (see below)

3 Animacy

- Matsigenka exhibits a binary animacy distinction encoded with the suffixes *-ni* ANIM and *-ti* INAN on adjectives (6), numerals (7), quantifiers (8), and interrogative pronouns (9)
 - The positive existential verb also exhibits two suppletive forms *aiño* and *aityo*,² animate and inanimate, respectively (10)
 - The negative existential verb, in contrast, exhibits no animacy distinction (11)
- With the exception of the positive existential, animacy agreement is DP-internal

²Note that these forms appear to contain *-ni* and *-ti*.

(6) ADJECTIVE

a. Ishiganaka ityomiani otomi... ANIMATE

i- shig -an -ak -a i- tyomia -ni o- tomi
3mS- run -ABL -PERF -REAL.A 3m- small -ANIM 3fP- son

‘Her small son ran away...’ (krt55)

b. Irirori ineakerora otyomiati koviti... INANIMATE

iriro =ri i- ne -ak -i =ro =ra o- tyomia -ti koviti
3m.PRO =CNTR 3mS- see -PERF -REAL.I =3fO =SUB 3f- small -INAN pot

‘Upon seeing the small pot...’ (pis27)

- Most adjectives agree only in gender with the noun they modify
- Numerals precede nouns, and basic numerals 1-3 agree in animacy, and not gender, with the noun they modify (7)

(7) NUMERAL

a. ...yagi mavani shima... ANIMATE

i- ag -i mava -ni shima
3mS- catch -REAL.I three -ANIM fish

‘...he caught three fish...’ (ksk29)

b. Inpo aganaka mavati kutagiteri... INANIMATE

inpo o- ag -an -ak -a mava -ti kutagiteri
then 3fS- pass -ABL -PERF -REAL.A three -INAN day

‘When three days had passed...’ (tsr35)

(8) QUANTIFIER³

a. ...maganiro shintori shitakotankicharira. ANIMATE

maganiro shintori ashi -t -ako -t -ankich -a =rira
all.ANIM peccary trap -EPC -APPL:INDR -EPC -SUBJ.FOC -REAL.A =REL

‘...all the peccaries that were trapped.’ (isk11)

b. ...itsivotanakerora magatiro inkenishi. INANIMATE

i- tsivo -t -an -ak -i =ro =ra magatiro inkenishi
3mS- illuminate -EPC -ABL -PERF -REAL.I =3fO =SUB all.INAN forest

‘...illuminating the entire forest.’ (mae16)

(9) INTERROGATIVE

a. ...tyanika pokankitsi? ANIMATE

tya -ni =ka pok -ankits -i
wh -ANIM =EPIST come -SUBJ.FOC -REAL.I

‘...who could have come?’ (oat32)

b. Tyati avotsi inkenantapaenpa...? INANIMATE

tya -ti avo -tsi i- n- ken -ant -apa -enpa
wh -INAN path -ALIEN 3mS- IRR- follow.route -APPL:INSTR -ALL -IRR.A

³See also *intaga* ‘only’ and *tovai* ‘much, many’, which agree in animacy with the noun they modify.

‘Along which path will he come...?’ (skv26)

(10) POSITIVE EXISTENTIAL

- a. ...antari niaaku eni aiño keatsi... ANIMATE

anta =ri nia -a =ku eni aiño keatsi
 there =CNTR river -CL:fluid =LOC Urubamba EXST.ANIM river.monster

‘...in the Urubamba River there was a monster...’ (tip14)

- b. Aityo kenkitsarintsi irashi irirori... INANIMATE

aityo *kenkitsa -ri -ntsi ir- ashi iriro =ri*
 EXST.INAN tell -NOMZ -ALIEN 3mP- about 3m.PRO =CNTR

‘There’s a story about him...’ (mgr2)

(11) NEGATIVE EXISTENTIAL

- a. ...kantankicha mameri ojime. ANIMATE

kantankicha mameri o- jime
 but NEG.EXST 3fP- husband

‘...but she didn’t have a husband.’ (gtp3)

- b. ...mameri ovore, mameri mapu... INANIMATE

mameri o- vore mameri mapu
 NEG.EXST DMY- wave NEG.EXST rock

‘...there are no waves, there are no rocks...’ (nma8)

- Matsigenka existential verbs are the only ones defective in not exhibiting subject agreement

3.1 Animacy and the Lexicon

- Animacy is for the most part semantically transparent
 - animate = all lifeforms capable of independent motion
 - inanimate = entities incapable of independent motion
- There are a small number of possibly “surprising” animates (Emlen 2014:313-314)
 - celestial bodies, lightning, and rainbows
 - plants with white, sticky sap (e.g., rubber plants)
 - chemically active substances (e.g., ash paste, ant venom, soap, gasoline)
 - miscellaneous: gold, paper money, coins, metal needles, slingshots, honey
- Not all theoretically possible combinations of gender and animacy are attested

Table 1: Interaction of Gender and Animacy

	MASC	FEM
ANIM	✓	✓
INAN	X	✓

Table 2: Distribution of Matsigenka Gender and Animacy Marking

	COORD	DEM	Noun (Poss.)	Verb	ADJ	NUM	QUANT	INTERR	EXST
Gender	✓	✓	✓	✓	✓	X	X	X	X
Animacy	X	X	X	X	(✓)	✓	✓	✓	✓

3.2 Interim Summary

- Gender is DP-internal and -external and encoded in five different word classes
- Animacy is mainly DP-internal and also encoded in five different word classes
- Adjectives are the only word class in which both gender and animacy are expressed

4 Classifiers

- Matsigenka classifiers appear in multiple syntactic environments, and are a less grammaticalized system than gender or animacy
 - The nominal lexicon is not exhaustively categorized by classifier
 - No noun must bear a classifier, in any context (even, for example, in enumeration)
 - Not all nouns may take a classifier
- Classifiers occur suffixed to nouns (12), adjectives (13), numerals (14), and verbs ((15)-(16))
 - Each of the following examples is grammatical when the classifier is absent

(12) Ishiganaka maniro_{poa}. NOUN

i- shig -an -ak -a maniro -poa
3mS- run -ABL -PERF -REAL.A deer -CL:tuber-like

‘A deer ran away.’ (MKO)

(13) ...paniro tsinane akatsit_{samani}... ADJECTIVE

paniro tsinane o- akatsiti -sama -ni
one.ANIM woman 3f- short -CL:chubby -ANIM

‘...a short woman...’ (osh9)

(14) Noneake patsan_{iro} shig_{opa}. NUMERAL

no- ne -ak -i pa -tsa- niro shigopa
1S- see -PERF -REAL.I one -CL:liana-like- one.ANIM caterpillar.sp.

‘I saw one *shigopa*.’ (MKO)

- Doubling of a classifier on a modifier and noun is ungrammatical (e.g., **papoatiro sekatsi_{poa}*)

- Classifiers on verbs may exhibit one of two morphosyntactically conditioned allomorphs
 - Forms beginning with /p/ or /k/ surface with these onsets when the noun they classify is in subject position
 - The same forms surface with the voiced counterparts [β] and [g] when the noun they classify is in object position
- Note that classifiers on nouns, adjectives, and numerals always exhibit voiceless onsets

(15) ...taekatsavagetankicha maranke. VERB

ontaek -a -tsa -vage -t -ankich -a maranke
 pile.up -EPV -CL:liana-like -DUR -EPC -SUBJ.FOC -REAL.A snake

‘...and there were many snakes piled up around the edge.’ (mrn50)

(16) Ipavoatakena sekatsi. VERB

i- p -a -poa -t -ak -i =na sekatsi
 3mS- give -EPV -CL:tuber-like -EPC -PERF -REAL.I =1O manioc

‘He gave me manioc.’ (MKO)

- Doubling of a classifier on the verb and noun is ungrammatical (e.g., **ipavoatakena sekatsipoa*)

4.1 Classifiers as Inalienable Nouns

- The Matsigenka nominal lexicon exhibits an alienable-inalienable distinction
 - Alienable nouns may appear in isolation, but are possessable only with the addition of the suffix *-ne* ~ *-te* ((17)-(18))
 - Inalienable nouns may never appear in isolation, and are possessable without further morphological operation (19)
- Matsigenka classifiers can be thought of as a sort of inalienable noun in the language

(17) Naro nogavintsata...shima, kemari, osheto... ALIENABLE, UNPOSSESSED

naro n- og -a -vintsa -t -a shima kemari osheto maniro
 1.PRON 1S- eat -EPV -INCL -EPC -REAL.A fish tapir howler.monkey deer

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

(18) a. ...tononkavagetake oshinkine. ALIENABLE, POSSESSED

tononk -a -vage -t -ak -i =∅ o- shinki -ne
 grind -EPV -DUR -EPC -PERF -REAL.I =3S 3fP- corn -A.P

‘...grinding her corn.’ (art32)

b. gaigaririra imarankete ALIENABLE, POSSESSED

og -a -ig -a =ri =rira i- maranke -te
 eat -EPV -PL -REAL.A =3mO =REL 3mP- snake -A.P

‘those who eat their snakes’ (ine4)

(19) ...ovashi opotakotanakero ovanko. INALIENABLE, POSSESSED

ovashi o- po -t -ako -t -an -ak -i =ro o- panko
 then 3fS- burn -EPC -APPL:INDR -EPC -ABL -PERF -REAL.I =3fO 3fP- house

‘...then she set fire to her house.’ (art42)

- Contextually unpossessed nouns inalienable exhibit one of two morphological instantiations
 - Some must take the suffix *-(n)tsi* (20)
 - Others must take the prefix *o-* (21)
 - * “Dummy” *o-* is homophonous with the third-person feminine possessive prefix, but does not induce voicing of a following /p/ or /k/ (cf. (19) & (21a))

(20) *-(N)TSI*

...ovashi intsimankaigakerora pankotsi. INALIENABLE, UNPOSSESSED

ovashi i- n- tsimank -a -ig -ak -e =ro =ra panko -tsi
 thus 3mS- IRR- shade -EPV -PL -PERF -IRR.I =3fO =SUB house -ALIEN

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

(21) “DUMMY” *o-*

a. ...yogavintantaigari okashi paroto. INALIENABLE, UNPOSSESSED

i- ogavint -ant -a -ig -a =ri o- kashi paroto
 3mS- treat -APPL:INSTR -EPV -PL -REAL.A =3mO DMY- liquid tree.sp.

‘...they treat themselves with the liquid [of the leaves] of the *paroto* tree.’

b. ...onanpinaku onti ventsaenkankicha otega... INALIENABLE, UNPOSSESSED

o- nanopina =ku o- nti oventsank -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)

c. ...ogari okana inti itomiegi. INALIENABLE, UNPOSSESSED

o- 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)

d. ...irogoigakerora otsantsa... INALIENABLE, UNPOSSESSED

i- r- ogo -ig -ak -e =ro =ra o- tsantsa
 3mS- IRR- measure -PL -PERF -IRR.I =3fO =SUB DMY- length

‘...[they will begin by] measuring it lengthwise...’ (ova24)

- Like other inalienable nouns, nouns that take dummy *o-* cannot appear in isolation
- Dummy *o-* itself clearly derives (historically) from the third-person feminine possessive prefix
 - When it is prefixed, it does not require the alienable possession suffixes, as do a combination of possessive prefix and alienable noun (see (18))
- Nearly all nouns that function as classifiers may take dummy *o-* and be referential (22)⁴

⁴See also (14) and (15).

- (22) a. *otsa*
o- *tsa*
 DMY- liana
 ‘liana’ (MKO)
- b. *maranketsa*
maranke -tsa
 snake -CL:liana-like
 ‘snake’ (MKO)

4.2 Interim Summary

- Classifiers constitute a non-obligatory, non-exhaustive system of noun categorization
- They occur with the members of the fewest word classes

Table 3: Distribution of Matsigenka Gender, Animacy, and Classifier Marking

	COORD	DEM	Noun	Verb	ADJ	NUM	QUANT	INTERR	EXST
Gender	✓	✓	✓	✓	✓	X	X	X	X
Animacy	X	X	X	X	(✓)	✓	✓	✓	✓
Classifier	X	X	✓	✓	✓	✓	X	X	X

5 Arawak Perspective

- In the influential classification of Aikhenvald (1999), Kampan constitutes one of six subgroups of ‘South and South-Western Arawak’, itself one of two first-order branches of Arawak⁵
 - Asháninka, Ashéninka, Caquinte, Matsigenka, Nanti, Nomatsiguenga
- A plausible internal classification for Kampan Arawak is given in Figure 1 (Michael 2008:218)

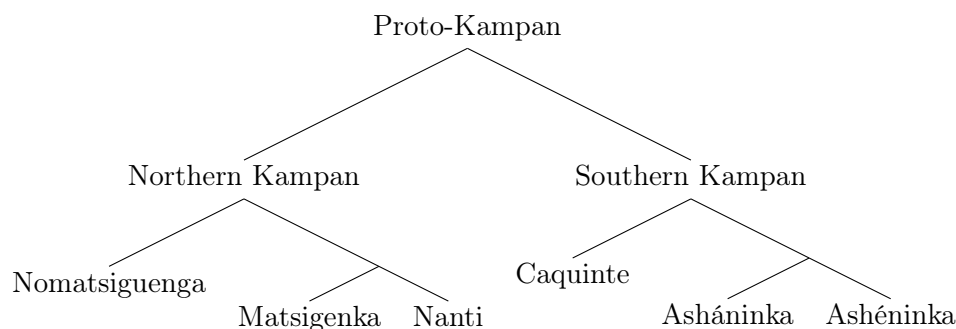


Figure 1: Kampan Classification

⁵See Michael & Granadillo (2014:7) for a summary.

5.1 Animacy and Gender in Kampan

- The distribution of animacy and gender marking varies within Kampan⁶

Table 4: Distribution of Animacy and Gender Marking in Kampan Languages

ANIMACY	COORD	DEM	Noun	Verb	ADJ	NUM	QUANT	INTERR	EXST
Nomatsiguenga	X	X	X	X	✓	✓	✓	X	✓
Matsigenka	X	X	X	X	✓	✓	✓	✓	✓
Nanti	X	X	X	X	✓	✓	✓	✓	✓
Caquinte	X	X	X	X	X	X	X	X	X
Asháninka	X	X	X	X	X	X	X	X	X
Ashéninka	X	X	X	X	X	X	X	X	X
GENDER	COORD	DEM	Noun	Verb	ADJ	NUM	QUANT	INTERR	EXST
Nomatsiguenga	X	✓	✓	✓	✓	X	X	✓	X
Matsigenka	✓	✓	✓	✓	✓	X	X	X	X
Nanti	✓	✓	✓	✓	✓	X	X	X	X
Caquinte	X	X	✓	✓	X	X	X	X	X
Asháninka	X	✓	✓	✓	?	X	X	X	X
Ashéninka	X	✓	✓	✓	✓	X	X	X	?

- Caquinte, Asháninka, and Ashéninka lack an animacy distinction altogether
 - In combination with Kampan-external evidence, this suggests an animacy distinction was innovated in Southern Kampan
 - Animacy distinctions are being lost on certain adjectives in Matsigenka, e.g., *mara* ‘big’
 - Nomatsiguenga differs from Matsigenka and Nanti in not encoding animacy on interrogative pronouns
 - van Epps (2010:31-32) suggests the animate suffix *-ni* is cognate to the human classifier in other southern Arawak languages such as Baure and Mojeño
 - * Furthermore, since many adjectival roots derive historically from verbs, *-ti* may be the re-analysis of an epenthetic consonant and reality status suffix (ibid.:34-35)

(23) ...pairani ityomiatira notomi...

pairani *i-* *tyomia* **-t** **-i** =*ra* *no-* *tomi*
 long.ago 3mS- be.small -EPC -REAL.I =SUB 1P- son

‘...long ago when my son was still small...’

(Snell 2011:562)

- Gender marking is ubiquitous across Kampan, and reconstructs to the proto-language
 - Most languages encode gender on demonstratives, nouns, verbs, and adjectives
 - Matsigenka and Nanti have extended gender marking to the DP coordinator
 - Caquinte has lost gender marking on demonstratives and adjectives

⁶See Kindberg (1980); Michael (2008); Payne (1980, 1981); Shaver (1996); Snell (2011); Vargas Pereira et al. (2013).

- Nomatsiguenga, instead of marking animacy on interrogative pronouns, marks gender
- Classifier systems like that in Matsigenka are present in all Kampan languages
 - Classifier systems are present even in northern Arawak, as in Baniwa (Aikhenvald 2007), but with different morphosyntactic distributions

6 Conclusion

- Matsigenka exhibits two exhaustive and obligatory noun categorization systems
- A third system is non-exhaustive and non-obligatory
- Classifiers are argued to be a sort of inalienable noun
- Gender systems are old within Arawak
- The Matsigenka animacy system is an innovation within northern Kampan
- Like classifier systems span all Kampan languages

References

- AIKHENVALD, ALEXANDRA Y. 1999. The Arawak Language Family. *The Amazonian Languages*, ed. by R. M. W. Dixon and Alexandra Y. Aikhenvald, 65–106. Cambridge: Cambridge University Press.
- AIKHENVALD, ALEXANDRA Y. 2003. *Classifiers: A Typology of Noun Categorization Devices*. Oxford: Oxford University Press.
- AIKHENVALD, ALEXANDRA Y. 2007. Classifiers in Multiple Environments: Baniwa of Içana/Kurripako – A North Arawak Perspective. *International Journal of American Linguistics* 73.474–500.
- CORBETT, GREVILLE G. 2006. *Agreement*. Cambridge: Cambridge University Press.
- EMLÉN, NICHOLAS Q. 2014. *Language and Coffee in a Trilingual Matsigenka-Quechua-Spanish Frontier Community on the Andean-Amazonian Borderland of Southern Peru*. University of Michigan PhD dissertation.
- FARMER, STEPHANIE, and ZACHARY O’HAGAN. 2014. *Nominal Reference in a Tiered Lexicon: A Semantic Account of Noun Classifiers in Two Amazonian Languages*. Berkeley: Talk given at Syntax and Semantics Circle, November 7.
- KINDBERG, LEE. 1980. *Diccionario asháninca*. No. 19 in Documento de Trabajo. Lima: Summer Institute of Linguistics.
- MICHAEL, LEV. 2008. *Nanti Evidential Practice: Language, Knowledge, and Social Action in an Amazonian Society*. University of Texas, Austin PhD dissertation.
- MICHAEL, LEV, and TANIA GRANADILLO. 2014. Introduction. *Negation in Arawak Languages*, ed. by Lev Michael and Tania Granadillo, 1–12. Leiden/Boston: Brill.
- PAYNE, DAVID L. 1980. *Diccionario ashéninca-castellano*. No. 18 in Documento de Trabajo. Lima: Summer Institute of Linguistics (SIL).
- PAYNE, DAVID L. 1981. *The Phonology and Morphology of Axininca Campa*. Publications in Linguistics. Summer Institute of Linguistics (SIL); University of Texas at Arlington.
- SHAVER, HAROLD. 1996. *Diccionario nomatsiguenga-castellano*. No. 41 in Serie Lingüística Peruana. Yarinacocha: Summer Institute of Linguistics (SIL).
- SNELL, BETTY E. 2011. *Diccionario matsigenka-castellano: con índice castellano, notas enciclopédicas y apuntes gramaticales*. No. 56 in Serie Lingüística Peruana. Lima: Summer Institute of Linguistics (SIL).
- VAN EPPS, BRIANA. 2010. *Noun Classes in the Kampan Languages: Contemporary Patterns and Historical Origins*. Undergraduate honors thesis, University of California, Berkeley.
- VARGAS PEREIRA, HAROLDO; JOSÉ VARGAS PEREIRA (AUTHORS); LEV MICHAEL; CHRISTINE BEIER; and ZACHARY O’HAGAN (COMPILERS). 2013. *Matsigenka Text Corpus (v. June 2013)*. ms.