

**Pragmatic, semantic, and morphosyntactic aspects of the
grammaticalization of nominal classification, with special reference to
Bora-Miraña (North West Amazon)**

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1. Introduction

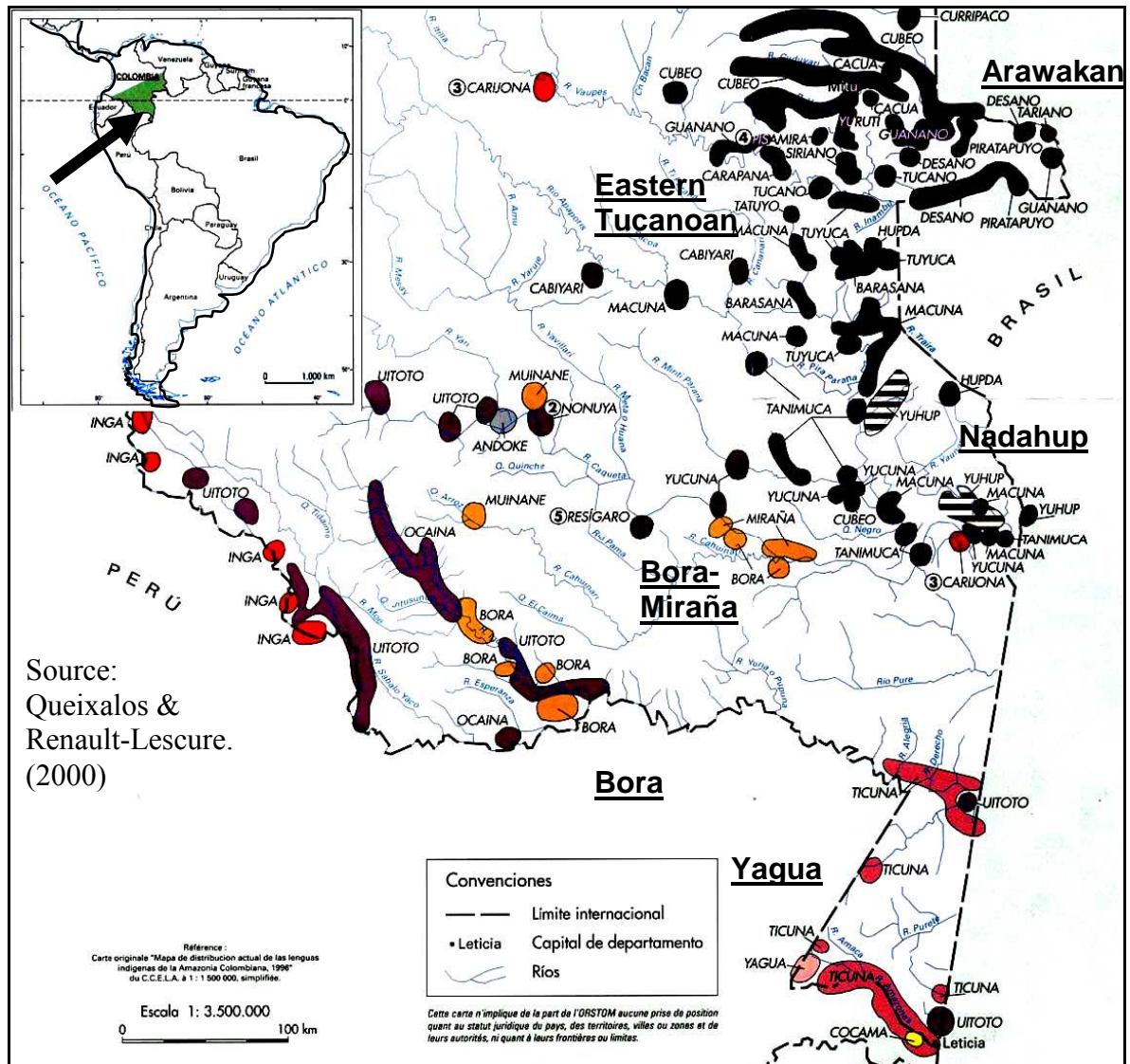
1.1. Aims of this talk

- focus on linguistic nominal classification in the broader context of human classification/categorization, including verb classification
- first part: pragmatic functions and semantic properties of nominal classification, in relation to general properties of coherent discourse, as motivations for diachronic developments, with a focus on reference-tracking function
- second part: morphosyntactic aspects of the grammaticalization of nominal classification, focusing on the “missing link” between “lexico-grammatical” (Grinevald 2000) classifiers (numeral classifiers, noun classifiers, verb classifiers etc.), and highly grammaticalized gender/noun class agreement systems, discuss a grammaticalization path that links the two
- the role and limitations of areal diffusion
- try to disentangle:
 - different classifications imposed by of one and the same form in different morphosyntactic constructions
 - different principles of classification in different sections of the nominal lexicon
 - different classifications imposed by different sections of noun classes or classifier set
- use Bora-Miraña (referred to as Miraña here) as a main example (Seifart 2005)

1.2. Basic definitions

- Grammatical nominal classification imposes a classification on most nouns of the language (possibly to some extent via the classification of nominal referents) and is realized by a delimited sets of forms that occur in surface structure
- Noun classes and genders are strongly grammaticalized systems, defined by realization of classes in agreement (European languages, Bantu languages)
- Classifiers are less strongly grammaticalized (larger sets, discourse sensitive use, no grammatical agreement)
- Subtypes of classifiers are distinguished by morphosyntactic context: Numeral classifiers, noun classifiers, verbal classifiers, etc.

1.3. Map of the North West Amazon



2. Pragmatics of classification in reference tracking

2.1. Classifiers within noun phrases vs. classifiers in reference tracking

- distinguishing a classifier's contribution to noun phrase reference within one noun phrase with the classified noun (e.g., numeral classifier) from a classifier's function as co-reference marker in reference tracking (possibly at a further step agreement marking)

- reference-tracking is a common function of noun classes (anaphoric agreement) and of many classifiers, e.g., noun classifiers (Craig 1986), verbal classifiers (Mithun 1986), irrespective of existence of agreement

(1) MIRAÑA NOUN CLASS MARKERS' CONTRIBUTION TO NOUN PHRASE REFERENCE

a. *úhi*

banana

'banana, banana fruit(s), banana plant(s), banana bunch(es), etc.'

b. *úhi-ʔo*

banana-SCM.3DIM.OBLONG

'banana fruit'

c. *úhi-ko*
 banana-SCM.1DIM.POINT
 ‘banana plant’

d. *úhi-ʔi*
 banana-SCM.BUNCH
 ‘bunch of bananas’

(2) MIRAÑA NOUN CLASS MARKERS IN AGREEMENT AND REFERENCE TRACKING

a. *wɬkú-ʔi tuɬkénú tsa-né aɬfú-ʔó:w*
 take-PRED begin.NMLZ one-GCM.INAN shine-SCM.CHUNK
 ‘... took first **one flashlight** ...’

b. *aró-náa tsáʔ té-ʔo:w pé:te-tú-ne*
 but-after NEG PN-SCM.CHUNK SUB.burn-NEG-GCM.INAN
 ‘... but then **it** (chunk, i.e. flashlight) did not work’

2.2. Classifiers / noun class markers as hyperonyms of classified nouns

- understanding nominal classification as a taxonomy of the nominal lexicon, i.e. classifiers as semantically general terms, ideally as hyperonyms of the nouns they classify.

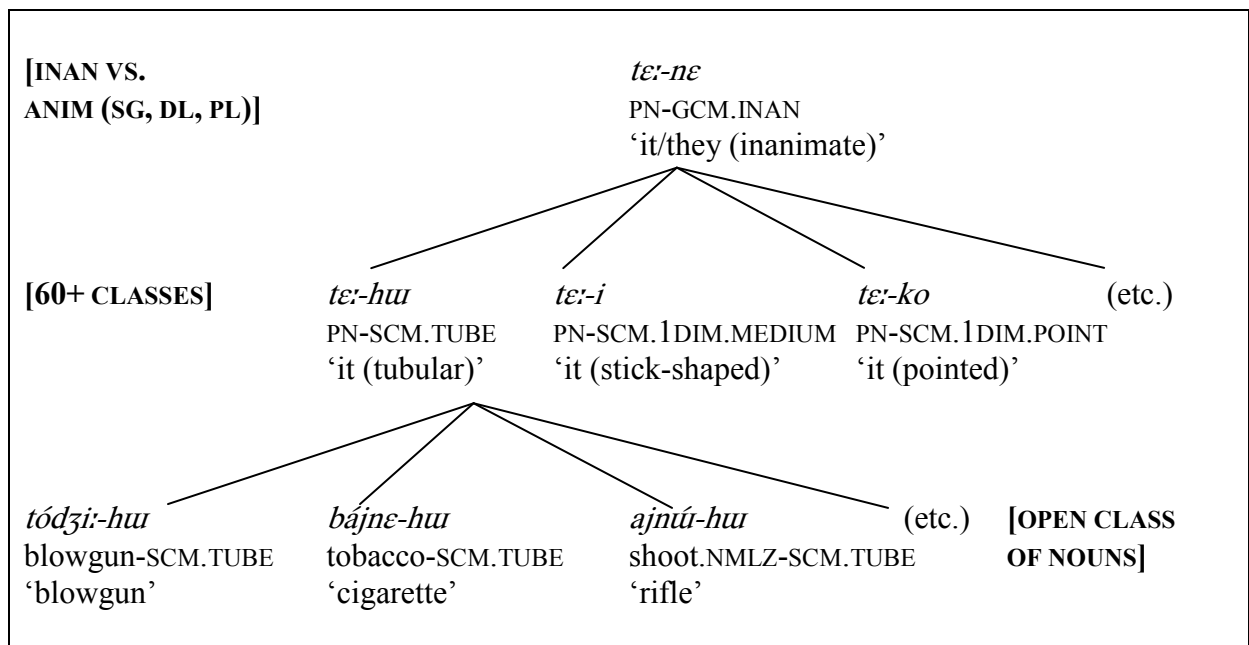


FIGURE 1: HYPERONYMIC RELATIONS MIRAÑA NOMINAL EXPRESSIONS

2.3. The interpretation of semantically general nominal expressions

<u>semantic specificity:</u>	semantically specific		semantically general
	←-----→		
<u>expression type:</u>	lexical noun	pronoun	zero
		free ----- bound	
<u>usual interpretation:</u>	new or inactive referent, non-coreferential reading		old or active referent, coreferential reading

FIGURE 2: TYPES OF REFERENTIAL EXPRESSIONS AND DEFAULT INTERPRETATION (Givón 1983: 18; Ariel 1988: 84; Gundel et al. 1993: 284; Chafe 1994: 71f.; Levinson 2000: 267)

(3) SEMANTICALLY GENERAL EXPRESSIONS AND COREFERENTIAL READING (based on Levinson 2000: 269)

a. *The ferry_j hit the rock. The vessel_j capsized.*

b. *The vessel_j hit the rock. The ferry_{*j} capsized.*

(4) *The ferry_j hit the rock. The vessel_j capsized. It_j sank immediately.*

(5) a. *ferry* [inanimate] [singular] [floating] [public transport]

b. *vessel* [inanimate] [singular] [floating]

c. *it* [inanimate] [singular]

- a very powerful, iconic principle, helps to ground the existence of nominal classification on general, communicative principles

- allocation of information in discourse also depends on:

- topicality (Givón 1983)

- paragraph structure (Fox 1987)

- always exceptions possible under specifiable conditions (epithets, etc.)

(6) ALLOCATION OF EXPRESSIONS WITH DIFFERENT DEGREE OF SEMANTIC SPECIFICITY IN MIRAÑA DISCOURSE

1. *i:htú = pé* **te-ne** *tódzi-hu* *o*
 yesterday=PST PN-GCM.INAN **blowgun-SCM.TUBE** 1SG.SUB
pákigwájhhu-kí ájnú-múná: *gwa?rá-bá*
 rasp-PURP white-people rasp-SCM.3DIM
ó-?di-w *tsí:βa-:be* *ájnú-múná-a-hpi*
 1SG-ANIM-ALL bring-GCM.M.SG white-people-PERT-GCM.M.SG
 ‘Yesterday I sandpapered **the blowgun**, (with) the white people’s rasp, (that) the white man had brought me.’

[...]

2. *i-htú: -rí* *o* *míbéhhw-ki* **te-ne** *kó?pe-né*
 POS.3-blood-INST 1SG.SUB wrap-PURP PN-GCM.INAN hard-GCM.INAN
i *káβá:βε-ki*
3SG.SUB become-PURP
 ‘So I would with its sap (i.e. the rubber tree’s), wrap **it**, so **it** would become hard.’

3. **a:-ne** *ó mibékwi-?ihka-?í* *ó mibehkú-?í*
 CON-GCM.INAN 1SG wrap_up-HAB-PRED 1SG wrap_up-PRED
ími-ne **te:-ne** *í* *káβá:βe-ki*
 good-GCM.INAN PN-GCM.INAN 3SG.SUB become-PURP
 ‘And I wrapped **it** up over and over, I wrapped it up, so **it** would become good.’

4. **a:-ne** *ó nuhtsókwi-?i* *úβé?kó?*
 CON-GCM.INAN 1SG try_out-PRED good
 ‘And I tried **it** out: good!’

[...]

5. *tétsi:tú = i?du* *á:báhá-hpi:-ké* *ó áhkú-ko-:?i* **té:-hu-βu**
 then=TAM owner-GCM.M.SG-ACC 1SG give-PF-FUT.PRED PN-SCM.TUBE-ALL
 ‘and after that, indeed, I will give **it** to its owner.’

2.4. Reference tracking and the development of nominal classification

- a pragmatic motivation to develop a classification of “noun universe” in the first place
- “pronominal agreement features represent only the top of the hierarchy of semantic features that underlie the noun universe” (Givón 1976: 171) (see also Lehmann 1988: 61f.; Barlow 1992: 46ff.)
- understanding of semantics of class markers/classifiers as those features of nouns that are appropriate as partial information about a given referent provided to signal coreference (and topicality)
- animates: natural gender, social status; inanimates: shape, size, etc. (e.g. Aikhenvald 2000: 275ff.)
- how does this extent to / relate to “individuation” or, more generally, classifiers that contribute to noun phrase reference within the same noun phrase as the classified noun? specificity? definiteness?
- this is specific to the interpretation of nominal referents, how does it apply to verb classification?

3. Semantic issues

3.1. Classification of referents, classification of concepts, classification of lexical nouns

- What is the meaning that can be attributed to the classifying morpheme (descriptive content)? (to be established for each classifying morpheme)
- How does this meaning relate to the meaning of the classified noun (motivated vs. opaque noun class assignment)? (to be established for each classifying morpheme – noun association)

(7) PREDICATING A CLASS MARKER’S MEANING OVER A REFERENT IN MIRAÑA (CLASSIFICATION OF REFERENTS)

a. **í-ne** *pá-?o-dú* *né:-ne*
 this-GCM.INAN COP-SCM.3DIM.OBLONG-COMP seem-GCM.INAN
 ‘This is an oblong one’

b. **í-ne** *pá-ko-dú* *né:-ne*
 this-GCM.INAN COP-SCM.2DIM.POINT-COMP seem-GCM.INAN
 ‘This is a pointed one’

- (8) SEMANTICALLY MOTIVATED NOUN CLASS ASSIGNMENT IN MIRAÑA
- a. *úhi-ʔo* *pá-ʔo-dú*
 banana-SCM.3DIM.OBLONG COP-SCM.3DIM.OBLONG-COMP
né:-ne
 seem-GCM.INAN
 ‘A banana is like an oblong one’
- b. *kaʔúnu-é:ʔo* *pá-i:ʔó-dú* *né:-ne*
 writing-SCM.LITTLE.STICK COP-SCM.LITTLE.STICK-COMP seem-GCM.INAN
 ‘A pencil is like a little stick’
- (9) IDIOMATIZATION / CONVENTIONALIZATION IN MIRAÑA (CLASSIFICATION OF CONCEPTS)
- a. *úhi-ʔo*
 banana-SCM.3DIM.OBLONG
 ‘banana fruit’ (not any other oblong object made from or related to bananas)
- b. *úhi-hi*
 banana-SCM.2DIM.ROUND
 ‘seed of a species of wild banana’ (not any other flat and round object made from or related to bananas)
- (10) SEMANTICALLY OPAQUE NOUN CLASS IN MIRAÑA (CLASSIFICATION OF NOUNS)
- a. ?? *kaʔgúnu-ko* *pá-ko-dú* *né:-ne*
 cahuana-SCM.1DIM.POINT COP-SCM.1DIM.POINT-COMP seem-GCM.INAN
 Intended meaning: Cahuana is like a pointed one (*kaʔgúnu-ko* ‘cahuana drink’)
- b. ?? *kó:mi-hi* *pá-hi-dú* *né:-ne*
 palm-SCM.2DIM.ROUND COP-SCM.2DIM.ROUND-COMP seem-GCM.INAN
 Intended meaning: A palm tree is like a round and flat one (*kó:mi-hi* ‘palm tree’)

- not denying semantic principles at work in opaque assignment (Lakoff 1987), but this test reveals a categorical distinction (see also Section 3.4).

appropriate descriptive content	no appropriate descriptive content
weak conventionalization	strong conventionalization
motivated assignment opaque assignment <----->	

Figure 3: SEMANTICALLY MOTIVATED AND OPAQUE NOUN CLASS ASSIGNMENT

- (11) GRAMMATICAL AGREEMENT IN MIRAÑA (LEXICAL NOUN CLASS) IRRESPECTIVE OF MOTIVATION (CLASSIFICATION OF NOUNS)
- a. *tša-ʔba* *kó:hui-ba*
 one-SCM.3DIM avocado-SCM.3DIM
 ‘one avocado (fruit)’
- b. *tša-ʔo* *kó:hui-ʔo*
 one-SCM.3DIM.OBLONG avocado-SCM.3DIM.OBLONG
 ‘one avocado (fruit)’

- c. * *tʃa-ʔo* *kó:hʉ-ba*
 one-SCM.3DIM.OBLONG avocado-SCM.3DIM
 Intended meaning: one avocado (fruit)
- d. * *tʃa-ʔba* *kó:hʉ-ʔo*
 one-SCM.3DIM avocado-SCM.3DIM.OBLONG
 Intended meaning: one avocado (fruit)

- three kinds of classification in three different constructions: referents (predicate nominal), nominal concepts (motivated noun class assignment), and nouns (agreement)

3.2. From motivated to opaque assignment: desemantization

- well attested in other languages, no historical data on Miraña, some processes synchronically observable:

(12) REDUCED MOTIVATION THROUGH CHANGE OF REFERENTS IN MIRAÑA

- a. *deíhʉ-gwa*
 to_spoon_up.NMLZ-SCM.2DIM.STRAIGHT
 ‘spoon’ (-*gwa* ‘flat, rigid, at least one **straight** edge’, traditionally pieces of wood with straight edges were used as spoons)
- b. *uɣwá:-hí*
 metal-SCM.2DIM.ROUND
 ‘ax’ (-*hí* ‘flat and **round**’, but traditional stone axes are round)

(13) EMERGENCE OF OPAQUE CLASS MARKERS THROUGH PARTIAL REPEATERS IN MIRAÑA

- a. *tʃa-mʉ kʉ:mʉ*
 ‘one signal drum’
- b. *tʃa-mʉ múhpajne*
 ‘one breast’
- c. *tʃa-mʉ ní:mʉ*
 ‘one umarí (species of fruit)’

(14) REANALYSIS OF INITIAL SYLLABLE AS CLASS MARKER IN SWAHILI

- a. *ki-tabu* (pl. *vi-tabu*) < Arabic
 ‘book’
- b. *ki-mono* < Japanese
 ‘kimono’

- an opposing diachronic force is semantization through folk-etymology, metaphor, semantic extension in the poetic canon, etc., but this process has (to my knowledge) never been attested with real historical data

3.3. Mixed classes with respect to semantic motivation and descriptive content

- it is common that masculine and feminine gender is motivated for humans (or animates), but applied to non-humans with less degree of semantic motivation

- also possible the other way around: motivated for inanimates and opaque for animates (Miraña faunal nouns)

	<u>inanimate</u>	<u>animate</u>
<u>semantically motivated</u>	<i>á:-ʔo</i> ‘maraca (tree, sp.) fruit’ <i>náme-ʔo</i> ‘penis’ <i>túhu-ʔo</i> ‘nose’	none
<u>semantically opaque</u>	<i>o:ní-ʔo</i> ‘dart’	<i>pá:bi-ʔo</i> ‘hummingbird, sp.’ <i>tʃiʔrí-ʔo</i> ‘fish, sp. <i>picalón</i> ’ <i>gwá:ni-ʔo</i> ‘louse, sp.’ <i>tí:ti-ʔo</i> ‘squirrel, sp. <i>Sciurus ignitus</i> ’ <i>máj:na-ʔo</i> ‘lizard, sp.’

TABLE 1: EXAMPLES OF *ʔo*-CLASS ‘OBLONG’

	<u>inanimate</u>	<u>animate</u>
<u>semantically motivated</u>	<i>á:múta-ko</i> ‘shaft of harpoon’ <i>á-ko</i> ‘beam’ <i>pihhú-ko</i> ‘fishing rod’	none
<u>semantically opaque</u>	<i>ih̄ta-ko</i> ‘manioc starch’	<i>ni:mú-ko</i> ‘bird, gen. <i>Craxs</i> ’ <i>úhtsu:mú-ko</i> ‘palmworm, sp.’ <i>óʔda-ko</i> ‘aquatic rat, gen. <i>Muridae</i> ’ <i>má:ti-ko</i> ‘chameleon, sp.’ <i>ari-ko</i> ‘spider, sp.’

TABLE 2: EXAMPLES OF *ko*-CLASS ‘POINTED’

	<u>inanimate</u>	<u>animate</u>
<u>semantically motivated</u>	<i>áʔdi-u</i> ‘cotton string’ <i>mo:ʔó-u</i> ‘liana’ <i>gwáj:ba-u</i> ‘string’	none
<u>semantically opaque</u>	<i>má:ni-u</i> ‘tobacco paste’	<i>tohpá-u</i> ‘bird, sp. <i>Crypturellus berschepshi</i> ’ <i>kó:h̄u-u</i> ‘dorado fish, sp.’ <i>ní:ku-u</i> ‘tick, sp.’ <i>tso:gwa-u</i> ‘bush dog, sp. <i>Speothos venaticus</i> ’ <i>džé:-u</i> ‘armadillo, gen. <i>Dasyopus</i> ’

TABLE 3: EXAMPLES OF *u*-CLASS ‘SMALL AND ROUND/STRING’

	<u>inanimate</u>	<u>animate</u>
<u>semantically motivated</u>	<i>nihtú-gwa</i> ‘bar of soap’ <i>boʔdó-gwa</i> ‘paddle’ <i>ígwa-gwa</i> ‘board of <i>sancona</i> (tree, sp.)’	none
<u>semantically opaque</u>	<i>kú:h̄u-gwa</i> ‘fire’	<i>tsuhtsú-gwa</i> ‘bird, sp. <i>Odontophorus hyperythrus</i> ’ <i>mér:u-gwa</i> ‘palmworm, sp. <i>mojojoy</i> ’ <i>ó:ba-gwa</i> ‘monkey, sp. <i>Pithecia pithecia</i> ’ <i>níʔha-gwa</i> ‘frog, sp.’ <i>piʔrú-gwa</i> ‘lizard, sp.’

TABLE 4: EXAMPLES OF *gwa*-CLASS ‘FLAT WITH STRAIGHT EDGE’

	<u>inanimate</u>	<u>animate</u>
<u>semantically motivated</u>	<i>né:ba-ba</i> ‘anetto fruit’ <i>ne:βá-ba</i> ‘fruit (generic)’ <i>i:ʔúhε-ba</i> ‘lemon (fruit)’ <i>úméne-ba</i> ‘tree trunk’ <i>á:dza-ba</i> ‘bombona (tree, sp.) trunk’ <i>dzí:níha-ba</i> ‘tree, sp. trunk’ <i>úni-ba</i> ‘spit’ <i>máʔni-ba</i> ‘tar’ <i>úhi-ba</i> ‘thick drink made from banana’	none
<u>semantically opaque</u>	<i>ní:ha-ba</i> ‘rain’	<i>pá:páj-ba</i> ‘wild boar, sp. <i>Tayassu tajacu</i> ’ <i>í:ki-ba</i> ‘gadfly’ <i>tóʔmi-ba</i> ‘woodpecker, sp. <i>Taraba major</i> ’ <i>kuʔrí-ba</i> ‘fish, sp.’ <i>áru:mε-ba</i> ‘terrestrial turtle, sp.’

TABLE 5: EXAMPLES OF *ba*-CLASS ‘FRUITS, LOGS, MUSHY OBJECTS’

3.4. Restricted distribution of opaque class markers

- opaque assignment results in restricted distribution in (i) focus constructions, (ii) reference tracking after longer stretches of text, and (iii) in agreement on different targets

(15) OPAQUE CLASS MARKER AND CONTRASTIVE FOCUS (German, Bosch 1988: 224f.)

- a. *Der Mann(M) hatte Streit mit seiner Freundin(F), weil SIE(F) noch eine andere Kneipe gehen wollte, aber ER(M) keine Lust mehr hatte.*
‘The man had a row with his girl friend, because SHE wanted to go on to another pub but HE didn’t feel like it any more’
- b. ?? *Wenn du die Mutter(F) von dem Bolzen(M) lösen willst, dann must du IHN(M) festhalten und SIE(F) nach rechts drehen*
‘If you want to loosen the nut from the bolt, you must hold IT and turn IT to the right’

- semantically opaque noun class markers can hardly be used for anaphoric reference after longer stretches of text: “In German, for instance, use of a masculine singular pronoun to refer across a long stretch of text to an inanimate antecedent of masculine gender is likely to cause bewilderment rather than retrieval of the appropriate referent, even if there are no intervening masculine singular referents” (Comrie 1994).

- Miraña shows that these two restriction are due to semantic opacity, not to animacy (see example 6)

- If there is a choice between a semantically opaque class markers and semantically transparent one for agreement marking, their distribution follows the Agreement Hierarchy (Corbett 1991: 225ff.), “semantic agreement” (as against “syntactic agreement”) is more likely to occur towards the top end (congruent with linear distance from head noun):

ATTRIBUTIVE MODIFIERS < PREDICATES < RELATIVE PRONOUNS < PERSONAL PRONOUNS
--

FIGURE 4: THE AGREEMENT HIERARCHY

3.5. Re-classification of nouns with opaque class assignment

- (16) OPAQUE CLASS WITH ANIMAL NAME IN MIRAÑA TRADITIONAL SONG

mamáβε-hí=pe *kú:mu-hí*
learn-SCM.2DIM.ROUND=PST turtle-SCM.2DIM.ROUND
'He learned, the turtle'

- (17) RE-CLASSIFICATION WITH TRANSPARENT CLASS IN CONTEMPORARY MIRAÑA

a. *aj:-dí* *múhu:-be* *kú:mu-hí*
DIST-GCM.M.SG be.big.SUB-GCM.M.SG turtle-SCM.2DIM.ROUND
'that big turtle'

b. *aj:-dí* *múhu:-be* *ni:mú-ko*
DIST-GCM.M.SG be.big.SUB-GCM.M.SG bird,sp.-SCM.1DIM.POINT
'that big bird (genus *Crax*)'

- (18) RE-CLASSIFICATION OF ANIMATES WITH TRANSPARENT CLASS IN SWAHILI (BANTU)
(Heine 1982: 195; Katamba 2003: 113) (class 1 is human class)

a. *ki-boko* *m-kubwa*
CLASS7-hippo CLASS1-large
'large hippo'

b. *zee* *yu-le*
old_man(CLASS5) CLASS1-that
'that old man'

- (19) RE-CLASSIFICATION OF INANIMATES WITH TRANSPARENT CLASS IN LINGALA (BANTU):
Mankandza Lingala (19a) vs. Kinshasa Lingala (19b) (Aikhenvald 2000: 400, citing
Bokamba 1977) (class 7 is inanimate class)

a. *mu-nkanda* *mu-ko-kweya*
CLASS3-book/letter CLASS3-TAM-fall
'A/the book fell down'

b. *mu-nkanda* *e-ko-kweya*
CLASS3-book/letter CLASS7-TAM-fall
'A/the book fell down'

- a motivation for a diachronic process of re-classification, again specific to reference tracking
(vs. contribution to noun phrase reference within noun phrase) and to nominal expressions
(vs. verbs)

4. Morphosyntax: grammaticalization and diffusion

4.1. The conundrum of the origin of Bantu noun classes

- typical Bantu language, like Swahili, have about 24 classes, marked on nouns and in
'alliterative agreement', the assignment is overall opaque (except often on 'human' class),
some semantic principles can be established, including shape semantics (Contini-Morava
1997). Their origin is unknown

Num-CL # N
Dem-CL # N
Art-CL # N
Art.CL=N
Art.CL-N
CL-N
CL-N # Num/Det/Mod-CL _{AGR}

FIGURE 5: GREENBERG'S (1978) SCENARIO FOR ORIGIN OF BANTU NOUN CLASSES

- there is a leap of faith from [[Num-CL] N] to [Num/Det/Mod-CL] [CL-N], e.g. inconsistent order of marking

- an opposing explanation by Nichols (1992: 140): "I propose the following scenario for the rise of elaborate and shape-based gender systems like those of central Africa: The language already has gender. The system is sufficiently elaborate that there is more than one class of inanimates. The morphological implementation of genders favors speaker awareness; e.g., the gender classes may be marked by transparently agglutinative affixes; fluid gender marking in a human macrogender may suggest that the markers are fully semantic and interchangeable; etc. The poetic canon may exploit gender as a basis for metaphor and simile (as that of Chechen does). Under these circumstances, a typical genders system could well begin to elaborate and eventually develop toward the central African model."

4.2. *Miraña: grammaticalization of classifiers into noun classes*

- viewing different types of nominal classification systems as instantiating different degrees of grammaticalization (Craig 1986; Grinevald 2000; Grinevald and Seifart 2004; see also Wurzel 1986)

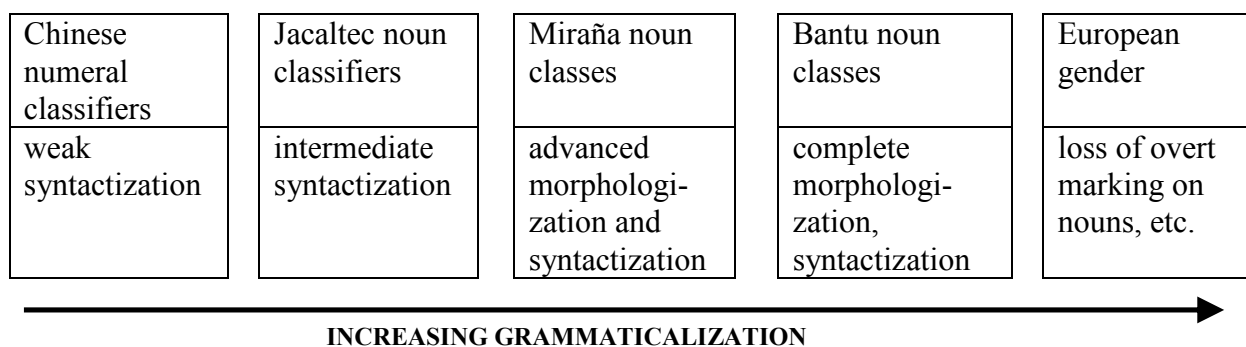


FIGURE 6: TYPES OF NOMINAL CLASSIFICATION SYSTEMS AND GRAMMATICALIZATION

- vs. Greenberg (1978): no need to assume cliticization and affixation of separate, classifying constituent (demonstrative, article), since source of classifier/noun class marker attaches to noun from the start

- vs. Nichols (1992): no need to postulate elaboration of class markers (paradigm and semantics)

- no historical data on Miraña, but different stages of grammaticalization observable in synchronic data, crucial role of reference tracking

(20) FREE NOUN WITH GENERIC MEANING USED AS HEAD OF COMPOUND
(CONVENTIONALIZATION, IDIOMATIZATION)

a. *úhí* *uβí-:baj*
banana basket-SCM.CONT
'a basket (full) of bananas'

b. *úhi-?bábaj*
banana-SCM.bag
'a bag (full) of bananas'

(21) NOUN USED AS "REPEATER" IN AGREEMENT SLOT

a. *íhka-báhuu* *tsá-báhuu* *báhuu*
COP.SUB-RP.FOREST one-RP.FOREST banana
'There is one (stretch of) forest'

b. *íhka-báhuu* *tsá-báhuu* *úhi-báhuu*
COP.SUB-RP.FOREST one-RP.FOREST banana-forest
'There is one banana plantation'

(22) PHONOLOGICAL REDUCTION (PARTIAL REPEATER)

a. *íhka-mo* *tsa-mo* *mó:aj*
COP.SUB-RP.RIVER one-RP.RIVER river
'There is one river'

b. *íhka-mi* *tsa-mi* *mi:ne*
COP.SUB-SCM.TRANSPORT one-SCM.TRANSPORT canoe
'There is one canoe'

- possibly coalescence of various repeaters (see example 13)

(23) CLASS MARKER ACQUIRES BROADER MEANING THAN SOURCE NOUN

a. *ha*
'house'

b. *te:-ha* *ha /* *gwájhamu /* *ká:mécha*
PN-SCM.COVER house / clothes / shirt
'that house / clothes / shirt'

(24) FREE NOUN FALLS OUT OF LANGUAGE

a. *íhka-:baj* *tsa-:baj* *úβi-:baj*
COP.SUB-SCM.CONT one-SCM.CONT basket-SCM.CONT
'There is one basket'

b. **:baj* *ká:tuβé-?i*
SCM.CONT fall-PRED
Intended meaning: It (container) fell down

- classes desemantize (see examples 13-12)

- Result: a still heterogeneous system, but with a "core set" of 8 phonologically reduced, highly frequent forms, with shape as a core meaning, which are (unlike other specific class markers) involved in opaque noun class assignment (see Tables 1-5), covering a large section

of inanimate nouns, in addition to general class markers (GCMs) which cover animate nouns and provide a default class marker for inanimates

	class marker	gloss
1	<i>-ba, -?ba</i>	SCM.3DIM (fruits, logs, mushy objects)
2	<i>-gwa</i>	SCM.2DIM.STRAIGHT
3	<i>-hi</i>	SCM.2DIM.ROUND
4	<i>-i</i>	SCM.1DIM.MEDIUM
5	<i>-ko</i>	SCM.1DIM.POINT
6	<i>-u</i>	SCM.3DIM.ROUND / SCM.STRING
7	<i>-?ε</i>	SCM.TREE
8	<i>-?o</i>	SCM.3DIM.OBLONG / SCM.ENCLOSURE

TABLE 6: THE CORE SET OF MIRAÑA SPECIFIC CLASS MARKERS

4.3. Diffusion of nominal classification

- classifiers are often diffused, genders are stable in language families (Nichols 1992), congruent with “borrowability” scales (e.g. Wilkins 1996): stronger grammaticalization -> less likely to be borrowed

	Noun Derivation	Numeral	Demonstrative	Descriptive Modifier	Verb Argument Marking on	Elsewhere in Verb	Predicate Possession	Other Possession
Arawakan: Tariana	+	+	+	+	Some Forms	+	+	+
Arawakan: Baniwa	+	+	-	+	Some Forms	+	+	-
East. Tucanoan: Tatuyo (etc.)	+	+	+	+	+	+	-	+
Witotoan: Mi- raña, Muinane	+	+	+	+	Most Forms	-	-	-
Witotoan: Witoto	+	+	+	+	-	-	-	-
Peba-Yaguan: Yagua	+	+	+	+	-	-	-	-
Nadahup: Hup	+	opt.	opt.	opt.	-	-	-	-

TABLE 7: MORPHOSYNTACTIC CONTEXTS OF CLASSIFIERS IN THE NORTH WEST AMAZON (Seifart & Payne 2007; Gomez-Imbert 2007, Epps 2008)

- not easy to establish directions of borrowing given sweeping areal diffusion, but attested cases allow for the hypothesis that classification structures are more often and easily diffused than forms

<u>Languages</u>	<u>Structures</u>	<u>Forms</u>
Baniwa (Arawakan) -> Cubeo (Eastern Tucanoan) (Gomez-Imbert 1996)	use of shape-based classifiers and the feminine marker on faunal nouns	none
Tucano (Eastern Tucanoan) -> Tariana (Arawakan) (Aikhenvald 2007)	the use of classifiers in demonstratives and possessive constructions (among other areally diffused characteristics)	none
Bora (Witotoan) -> Resígaro (Arawakan) (Aikhenvald 2001; Seifart 2007b)	use of classifiers/class markers on	a few dozen classifiers/class markers (+ number markers, etc.)

TABLE 8: ATTESTED DIFFUSION OF NOMINAL CLASSIFICATION IN THE NORTH WEST AMAZON

4.4. The influence of pre-existing forms and structures

- pre-existing forms and structures play a crucial role in shaping (diffused) nominal classification
- confirms Nichol's (1992) claim of difficulty to borrow noun class (agreement)

	<u>Hup (Nadahup)</u> (Epps 2008)	<u>Tariana (Arawakan)</u> (Aikhenvald 2007)	<u>Miraña (Boran-Witotoan)</u> (Seifart 2007a)
reconstructable source forms and structures	generic nouns, no agreement, no numeral classifiers	numeral classifiers forms and structure, FEM vs. non-FEM agreement and cross-reference	compound construction, probably agreement slots on Det, Num, Mod, verbs, number and natural gender markers
outcome	derivational markers and incipient concordial function in anaphoric expressions	partially overlapping classifier sets on numerals vs. Det, Mod, and verbs	derivational class markers, and uniform noun class agreement pattern

TABLE 9: SOURCE FORMS AND STRUCTURES AND OUTCOMES OF NOMINAL CLASSIFICATION

5. Summary and conclusion

- pragmatics of semantically general forms in reference tracking a possible motivation to develop classification in the first place
- opaque assignment as a motivation to re-classify
- grammaticalization as a possible link from lexical classifiers to grammatical noun classes
- the role of diffusion and pre-existing patterns in grammaticalization

Abbreviations and conventions

1	first person	M	masculine
1DIM	one dimensional	NEG	negation
2DIM	two dimensional	NMLZ	nominalization
3	third person	PN	pronoun
3DIM	three dimensional	PRED	predicate
ALL	allative	PST	past
ANIM	animate	PURP	purposive
COMP	comparative	RP	repeater
CONT	container	SCM	specific class marker
DIST	distal	SG	singular
GCM	general class marker	SUB	subordination
INAN	inanimate	TAM	tense aspect mood

- morphemes break; = clitic break; # word boundary

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