Palikur and the Typology of Classifiers

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Abstract. This article describes an unusual and complicated system of genders and classifiers in Palikur, a northern Arawak language spoken in Brazil and French Guiana. Palikur has three genders (masculine, neuter, and feminine); gender assignment is based on a combination of semantic features (humanness, animacy, size, and shape). There are two or three gender choices depending on construction type. There are also four distinct types of classifiers: numeral classifiers, verbal classifiers (with two subsets—those occurring on stative verbs, which are frequently used as modifiers in noun phrases, and those occurring on transitive verbs), locative classifiers (used as adpositions), and possessive classifiers (generic nouns used in possessive constructions with certain alienably possessed nouns). Different noun classification devices have different functions and scope; all, except possessive classifiers, overlap in their semantics. Classifiers provide cross-categorization of nouns and help the language to structure concepts. Throughout the article, Palikur gender and classifiers are placed in typological perspective.

1. Introduction. Amazonian languages are known for their complicated and unusual systems of noun classification devices. Often, there is more than one type of classifier combined with gender (Derbyshire and Payne 1990; Aikhenvald 1994a, forthcoming b). The same morphemes may be used in several classifier functions, and sometimes there are up to five or six different sets of noun classification devices. These languages are important from the point of view of a broad typological perspective. To clarify their positions, many questions need to be addressed. For instance, how many different kinds of classifiers can co-occur in one language? What are their functions and semantics? How do they interact? Are they obligatory? Are the same or different morphemes used in different functions? These and other questions can only be answered after a close look at the complex classifier systems of individual Amazonian languages, which is what we intend to do in this article.

Here, we propose to describe one of the world’s richest systems of noun classification devices—that found in the Palikur language of Brazil.¹ We will then look at how different noun classification devices interact in Palikur with respect to their functional properties, semantics, and origin. This highly un-
usual system has four kinds of classifiers, which coexist with two sets of gender distinctions. Gender markers and classifiers can co-occur within a single grammatical word—though agreement in gender and the choice of classifiers follow different principles.

The article is organized as follows. In section 2, we give a brief sketch of the typological framework used for our analysis of noun classification devices. In the next five sections, we describe Palikur: gender assignment and the principles of gender agreement are considered in section 3; numeral classifiers are presented in section 4; verbal classifiers and their use with stative and with transitive verbs are considered in section 5; an unusual type of classifier found on locative adpositions is described in section 6; and, finally, classifiers used to characterize the possessed noun in a possessive noun phrase are described in section 7. In the last section of the article, we evaluate the properties of genders and classifiers in Palikur from a typological perspective.


2.1. Outline of a typology. Almost all languages have some grammatical means for the linguistic categorization of nouns and nominals. The term “classifier systems” is used to denote a continuum of methods of noun categorization. Well-known systems, such as the lexical numeral classifiers of Southeast Asia, on the one hand, and the highly grammaticalized gender agreement classes of Indo-European languages, on the other, represent the extremes of this continuum. They can have a similar semantic basis, and one can develop from the other.

During the last two decades, there have been a number of proposals for a semantic and grammatical typology of noun classification systems (e.g., Denny 1976; Allan 1977; Dixon 1982, 1986; Craig 1986a, 1986b, 1992, forthcoming). Recently, the typological parameters of classifiers and other agreement categories have had to be revised in the light of new data, especially those from previously undescribed South American Indian languages (e.g., Derbyshire and Payne 1990; Craig 1992, forthcoming; Corbett 1991).

Classifiers and noun classification systems have, for a long time, been a particular focus of interest in functional typology. They provide a unique insight into how people categorize the world through their language. The study of classifiers and noun classification systems is intrinsically connected with a great many issues that are crucial in modern linguistics, such as agreement, processes in language development and obsolescence, the distinction between inflection and derivation, and types of possessive constructions. The typology of noun classification devices given here is based on morphosyntactic contexts that are specific for each type.2

Some languages have grammatical agreement classes based on such core semantic characteristics as animacy, sex, or humanness. They are called noun
classes or genders. The number of noun classes varies—from two, as in Portuguese or French, or three, as in Palikur (see section 3), to ten, as in Bantu, or even to several dozen, as in some North Arawak languages of South America (Aikhenvald 1994a, 1996). Noun classes, or genders, can be more or less semantically transparent, and their assignment can be based on semantic, morphological, or phonological criteria.

Some languages have special morphemes that appear next to a numeral or a quantifier. They categorize the noun in terms of its animacy, shape, dimensionality, arrangement, or other properties. These are *numeral classifiers* (see Craig 1992, forthcoming). Numeral classifiers are relatively frequent in the isolating languages of Southeast Asia and in the northern Amazonian languages of South America.

*Noun classifiers* categorize the referent noun with which they co-occur. The semantic relationship between the classifier and the noun is generic-specific, as in Yidiny (an Australian language) *bama waguja* (‘person man’) ‘a man’ (Dixon 1982:192–203). These can be independent lexemes, as above, or they can appear as affixes on a noun. They are typically found in Australian, Austronesian, Mayan, and a few South American languages (Craig forthcoming; Sands 1995).

A special morpheme in a possessive construction can characterize the way the possessed noun relates to the possessor. This is illustrated in (1) and (2) which are from Fijian, an Austronesian language (Lichtenberk 1983:157–58). Such morphemes, shown in boldface, are called *relational classifiers*. Relational classifiers are found in Oceanic languages and in a few South American languages (Aikhenvald 1994).

(1) *na me-*qu *yaqona* (Fijian)
   ART CL:DRINKABLE-my kava
   ‘my kava (which I intend to drink)’

(2) *na no-*qu *yaqona* (Fijian)
   ART CL:GENERAL-my kava
   ‘my kava (that I grew, or that I will sell)’

There may be a special morpheme that characterizes a possessed noun in a possessive construction, as in (3), from Tariana, a South American language from the Arawakan family. This is a *possessive classifier*.

(3) *tfinu nu-*ite (Tariana)
   dog 1SG-CL:ANIMATE
   ‘my dog’

Possessive classifiers may also be generic nouns (with possessive affixes attached to them). They are obligatory with certain nouns that cannot take possessive affixes; these often include fruit, plants, or animals. This is illustrated
Classifiers in possessive constructions are often employed only with alienably possessed nouns, but this is not necessarily so. In very few languages, special morphemes characterize the possessor; these are possessor classifiers.

Verbal classifiers are affixed to the verb or incorporated into the verb; they categorize a noun, which is typically in S/O function, in terms of its shape, consistency, and animacy. The example (5), from Waris, a Papuan language (Brown 1981:96), shows how the classifier -put- ‘round objects’ is used with the verb ‘get’ to characterize its object argument, ‘coconut’. Verbal classifiers may occur before the verb root, as in (5). In other languages, including Palikur (see section 5), they follow a verb root (cf. Aikhenvald 1994a:426).

Verbal classifiers are found in a number of North American Indian languages (including the Athabaskan languages), northern Australian languages of Arnhem land (Sands 1995), some Papuan languages, and a number of South American Indian languages. The use of verbal classifiers may correlate with classificatory noun incorporation as a marker of verb-argument agreement (cf. Mithun 1984).

Locative classifiers, which are relatively rare, occur on locative adpositions, or adverbs, and characterize the head noun in terms of its animacy or shape. So far, these have only been found in a limited number of South American languages. The data from Palikur are crucial in arguing for this type as a separate classifier type (see section 6).

Another rare type of classifier is the deictic classifier, which occurs with deictic markers such as demonstratives and articles. Deictic classifiers are found in a few South American and North American Indian languages, including Siouan languages (Barron and Serzisko 1982), and possibly in Teop, an Austronesian language from Bougainville (Mosel and Spriggs 1992). Arguments in favor of these as a separate classifier type are given in Aikhenvald (forthcoming b).

A number of the general statements that have been made in the past about different types of classifiers have been shown to be incorrect. Some of the previously accepted universals and general tendencies no longer hold. For example, Dixon (1982:220) said that languages cannot have classifiers and gender as
separate categories and that "no example is known of a language with two distinct systems of noun classes" (see also Craig 1986a, 1986b). Recent work on South American and Papuan languages shows that classifiers and genders do, in fact, co-occur, and that languages can have more than one distinct system of classifiers coexisting with more than one complicated and semantically non-transparent gender system. Palikur is an extreme example of such a language.

2.2. The coexistence of different classifier types in one language. There are two ways in which different types of noun classification devices can coexist in one language:

1. One set of morphemes is used in different classifier functions. Systems of this kind are attested for South American, Papuan, and Austronesian languages (see Aikhenvald 1994a; Senft 1996; and Onishi 1994).

2. Several different sets of morphemes are used in different classifier functions (as outlined in section 2.1). These may partly overlap in form or meaning. They may differ in the conditions of their use, that is, whether they are obligatory or not. Sometimes, their meaning is the same, but the form is different; sometimes it is the other way around.

In this article, we will investigate Palikur, which has an ample array of distinct types of classifiers. It has one of the richest noun classification systems yet described in terms of how many distinct types of classifiers it possesses.

Palikur has a gender system (with two or three gender distinctions, depending on the type of construction) and four types of classifiers: (1) numeral classifiers; (2) verbal classifiers, with two subsets—those occurring on stative verbs which are frequently used as modifiers in noun phrases, and those occurring on transitive verbs; (3) locative classifiers; and (4) possessive classifiers (generic nouns used in possessive constructions with some alienably possessed nouns).

Different grammatical systems of agreement based on different semantic parameters coexist in quite a few of the languages of the world. Most frequently, there are two (or, in rarer cases, more) concordial systems, either for different classes of grammatical units, or for different classes of units and different types of agreement—such as verb-argument and head-modifier agreement (cf. Anderson 1992:106). In a number of South American and Australian languages, there is a small set of sex-based and animacy-based genders realized in verb-argument constructions. A larger set of animacy and shape-based noun classes is used in head-modifier agreement (Aikhenvald 1994a:415–16). Systems of these two kinds are called "split agreement" systems in Aikhenvald (1994a:415–19).

Palikur is an example of a language of this kind. Palikur uses two different sets of gender distinctions (two or three), depending on the type of agreement and the element on which the agreement is marked (known as the "target" of agreement; cf. Corbett [1991:189–91]). There is a general tendency to have more genderlike distinctions with personal pronouns, cross-referencing elements, or
demonstratives, and fewer in other contexts. This is also the case in Palikur (see sections 3 and 8).

3. Gender in Palikur. Gender forms in Palikur are briefly characterized in section 3.1; gender assignment is described in section 3.2, and gender agreement in section 3.3. Unusual typological properties of Palikur gender are outlined in section 3.4.

3.1. Gender forms. Gender in Palikur is realized through agreement of the head-modifier kind and of the predicate-argument kind. As is typical for an Amazonian language, gender is usually not marked on the head noun itself. Gender agreement is obligatory, and every noun has fixed gender.

Three gender-agreement forms (masculine, feminine, and neuter) are found in head-modifier constructions on demonstratives. They are also found in predicate-argument constructions on third person cross-referencing affixes and pronouns (see section 3.3.1 and appendix 2).

Two gender-agreement forms (feminine, and masculine-neuter or non-feminine) are found with a number of verbal "gender-sensitive" suffixes in predicate-argument agreement with the subject (A/S) and in head-modifier agreement if a modifier is a stative verb. Palikur has no special morphological class of adjectives; stative verbs are used as modifiers (see section 3.3.2).

3.2. Gender assignment. Gender assignment principles are mixed semantic and phonological (cf. Corbett 1991:7–66). Semantic principles of assignment are not totally transparent (see figure 1). The main semantic division that governs gender assignment is animacy.

Animate nouns divide into human and nonhuman. Gender assignment of human nouns is governed by sex: males are masculine and females are feminine. Heavenly bodies (sun, moon, stars, planets), thunder, and lightning belong to the masculine gender, because according to traditional legends they were once men.

Gender assignment of nonhuman nouns is determined by their nature. Certain kinds of animate beings, e.g., birds, turtles, and insects, are feminine. Sex of species determines gender choice for some large animals, e.g., monkeys, dogs, and jaguars, where males are masculine and females are feminine. If sex is unknown, masculine gender is used.

Size of species determines gender choice for fish and for some animals. In general, large ones tend to be masculine, while small ones tend to be feminine. For example, large carrion-eating birds are masculine, while smaller birds are feminine; tamanwa 'anteater' (from Portuguese tamandoa) is masculine, while the smaller animal tat 'armadillo' (from Portuguese tatū) is feminine.
Gender assignment to nonhuman animates can also depend on their value and on speakers' attitudes towards them. Feminine gender assignment is associated with positive value, while masculine gender correlates with negative feelings. The rat is a small animal; however, it is assigned masculine gender because it is looked upon as dirty and bad. But a cute little baby rat would be referred to as feminine. Along similar lines, turtles are usually feminine, but a turtle that is a nuisance and has to be got rid of would be referred to as masculine. One of our consultants explained that all insects are masculine in spite of their small size "because none of them are any good for food" and all they do is bother people, eat crops, and cause sickness.

If the sex of a person is unknown, masculine gender is used for an adult and feminine for a child (see note 9). The term for 'person', hiyeg, is always masculine. A mixed group is masculine, unless it is specified that a woman is among
them, in which case the group is referred to as feminine. Consequently, neither masculine nor feminine gender can be considered functionally unmarked (cf. Alpher 1987; Aikhenvald forthcoming b).

A large proportion of nouns with inanimate referents—including natural phenomena, abstract nouns, and nominalizations—are assigned to neuter gender, e.g., ahin ‘path’, arikna ‘thing’, abektey ‘example’, and barewka ‘beauty’. Words that refer to time are also neuter, e.g., hawkri ‘day’ and paka ‘week’. All plants and fruits are feminine.

Gender assignment of other inanimate nouns is partially based on shape, consistency and material. Nouns that refer to objects that have constant shape and are rigid and bounded are feminine. Consequently, all round or square or concave objects with a fixed shape are feminine, e.g., umuh ‘canoe’ or tumawi ‘cuya (an indigenous cup)’. So are objects made of wood or metal, e.g., nosuwyeg ‘a metal pan’ or warukma ‘a metal star’ (note that a real star is masculine).

Natural phenomena that are considered to have definite height and depth and boundaries are also feminine—e.g., rivers, waterfalls, or fire. On the other hand, nouns that refer to flexible, unbounded objects without constant shape are neuter, e.g., kwak ‘manioc meal’, ah ‘wood’, un ‘water’, payt ‘leaf roof; house’, and panye ‘basket’.

Phonological principles of gender assignment are also at work and are important for gender assignment of loans from French-based creole and Guense where they usually override the gender of the source language. Masculine human nouns usually end in -e or -i. Neuter nouns can end in any vowel or consonant. Loan nouns that end in -o or -u are usually feminine in gender, e.g., marto ‘hammer’ (from French Creole marto), sitru ‘lemon’ (from French Creole citrō), or tattu ‘armadillo’ (a variant of tat, from Portuguese masculine tatu) (11). Nouns that end in -a or -i are usually given neuter gender, e.g., karta ‘paper’ (from Portuguese feminine carta), kamisa ‘cloth; shirt’ (from Portuguese feminine camisa), and simza ‘shirt’ (from French chemise) (12).

Neuter agreement forms are often used with inanimate nouns independently of their gender. This has been observed in texts and among younger speakers. This reflects a current tendency to make gender assignment more semantically motivated.

3.3. Gender agreement.

3.3.1. Three gender-agreement forms. Three gender-agreement forms are found in head-modifier noun phrases with demonstratives as modifiers. Other modifiers (quantifiers, indefinites, and interrogatives) have no gender agreement (Green and Green 1972:64). Gender agreement with demonstratives is illustrated in (6)–(8). Singular demonstrative forms are given in table 1.
(6) *ner awayg*¹⁴
   this:m man
   ‘this man’

(7) *no tino*
   this:f woman
   ‘this woman’

(8) *ini ahin*
   this:n path
   ‘this path’

Table 1. Singular Demonstratives in Palikur

<table>
<thead>
<tr>
<th></th>
<th>IN SPEAKER’S HAND</th>
<th>NEAR TO SPEAKER AND TO HEARER</th>
<th>FAR FROM SPEAKER AND NEAR HEARER, OR VICE VERSA</th>
<th>FAR FROM BOTH BUT VISIBLE</th>
<th>VERY FAR FROM BOTH, NOT VISIBLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masc.</td>
<td><em>ner</em></td>
<td><em>ner</em></td>
<td><em>nop</em></td>
<td><em>netra</em></td>
<td><em>nere</em></td>
</tr>
<tr>
<td>Fem.</td>
<td><em>no</em></td>
<td><em>no</em></td>
<td><em>nop</em></td>
<td><em>notra</em></td>
<td><em>nore</em></td>
</tr>
<tr>
<td>Neut.</td>
<td><em>inin</em></td>
<td><em>ini</em></td>
<td><em>nop</em></td>
<td><em>inutra</em></td>
<td><em>inere</em></td>
</tr>
</tbody>
</table>

In predicate-argument constructions, third person cross-referencing affixes and independent pronouns have three-gender agreement forms, as given in table 2. (The different cross-referencing markers are discussed in appendixes 1 and 2.)

Table 2. Cross-Referencing Affixes and Independent Pronouns

<table>
<thead>
<tr>
<th></th>
<th>PREFIXES</th>
<th>SUFFIXES</th>
<th>INDEPENDENT PRONOUNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td><em>nu-</em></td>
<td><em>-un</em></td>
<td><em>nah</em></td>
</tr>
<tr>
<td>2SG</td>
<td><em>pi-</em></td>
<td><em>-pi/ep</em></td>
<td><em>pis</em></td>
</tr>
<tr>
<td>1PL</td>
<td><em>u-</em></td>
<td><em>-u/wi</em></td>
<td><em>wis</em></td>
</tr>
<tr>
<td>2PL</td>
<td><em>yi-</em></td>
<td><em>-yi/ey</em></td>
<td><em>yis</em></td>
</tr>
<tr>
<td>3m</td>
<td><em>gi-</em></td>
<td><em>-gi/ig</em></td>
<td><em>ig</em></td>
</tr>
<tr>
<td>3f</td>
<td><em>gu-</em></td>
<td><em>-gu/ig</em></td>
<td><em>eg</em></td>
</tr>
<tr>
<td>3n¹</td>
<td><em>a-, ga-, ni-</em></td>
<td><em>-ni/in</em></td>
<td><em>in</em></td>
</tr>
</tbody>
</table>

NOTE: ¹See appendix 2.

Gender agreement with the subject, with a possessor, as in (9), or with the argument of an adposition is also obligatory.

(9) *ig karumaya ig uholki gi-wat-ni.*
   3m Karumaya 3m God 3SGm-sent.one-POSS
   ‘This (man) Karumaya was God’s messenger.’
Neuter cross-referencing is commonly used in texts to mark agreement with an inanimate head noun. In (10), the agreement with the demonstrative modifier is feminine; the agreement with the cross-referencing possessor is neuter.

(10) eg gi-waw-ni nawene-wa a-humwa-ni
    this:f 3SGm-rattle-POSS different:nf-EMPH 3SGn-form-POSS
    ‘This (feminine) rattle of his had a different form.’

3.3.2. Two gender-agreement forms. Gender agreement appears on a number of suffixes of verbs (see table 3). These suffixes distinguish two agreement forms: one for masculine and neuter (nonfeminine), and one for feminine. For a few individual lexical items, gender agreement is realized through internal vowel change (o for ‘feminine’; e or a for ‘masculine/neuter’).

### Table 3. Gender Marking on Verbs in Palikur

<table>
<thead>
<tr>
<th>Type of Verb Form</th>
<th>Masculine/Neuter</th>
<th>Feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuative</td>
<td>–ne</td>
<td>–no</td>
</tr>
<tr>
<td>Continuative prolonged</td>
<td>–nene</td>
<td>–nano</td>
</tr>
<tr>
<td>Noncompleted, frustrated</td>
<td>–pa-ri</td>
<td>pa-ru</td>
</tr>
<tr>
<td>Inchoative</td>
<td>–pi-ye</td>
<td>–pi-yo</td>
</tr>
<tr>
<td>Durative</td>
<td>–ye</td>
<td>–yo</td>
</tr>
<tr>
<td>Individual lexical items</td>
<td>miyap ‘he/it dies’</td>
<td>miyop ‘she dies’</td>
</tr>
<tr>
<td></td>
<td>nemnik ‘approach’</td>
<td>nomnik ‘approach’</td>
</tr>
<tr>
<td></td>
<td>nawene-wa ‘different’</td>
<td>naweno-wa ‘different’</td>
</tr>
</tbody>
</table>

This type of gender agreement is obligatory in predicate-argument constructions and is always with the subject (A/S). Example (11) illustrates gender agreement with the subject marked on the continuative suffix.16

(11) gi-waw-ni eg-ye r-wa waw waymaviya-no eg
    3SGm-rattle-POSS 3SGf-true-EMPH rattle underworld+PERT-CONTf 3f
    ‘His rattle (feminine) was a true underworld one.’

Gender agreement of animate nouns with a stative verb as a modifier in a noun phrase is illustrated in (12) and (13). Agreeing forms are in boldface.

(12) barew-ye tino
    be pretty/clean-DURf woman
    ‘a pretty woman’

(13) eg ipeg-pita hiyeg barew-ye
    3f look-V.CL:IRREG person beautiful-DURf
    ‘She looked a beautiful person all over.’
Gender agreement with an animate noun (hiyeg ‘person’) on the verb (mi-yap ‘he dies’) and with an inanimate noun (yuwit ‘word’) on barew-ye ‘beautiful durative nonfeminine’, a stative verb in a modifier function, is shown in (14).

(14) kuri a-pit hiyeg miyap ig-his awna
    now 3SGn-before person die:3SGn 3m-PL speak

    barew-ye-ren yuwi k u pariye pes
    beautiful-DURnf-only word SUB that come.out

    ‘Now, before a person dies, they speak beautiful words that come out.’

3.4. Typological properties of Palikur genders. Palikur has a gender system with two or three agreement forms depending on the type of construction and the type of agreement. More agreement forms are distinguished in demonstratives and personal pronouns than in gender-sensitive verbal affixes, thus creating a peculiar and typologically quite unusual “split” system of gender marking (i.e., one with different forms and categories for different construction types). However, if viewed in a broad typological perspective, Palikur is not so peculiar. There is an almost universal tendency to distinguish more gender agreement forms with third person pronouns or with deictics than with modifiers from open classes.

In many languages of the world, a gender opposition is found only in personal pronouns, as in English, in South American languages such as Kaingang, Rikbaktsa, and Kakua (Aikhenvald forthcoming b), and in numerous Australian languages such as Dyirbal, an Australian language from northern Queensland, in some Arawak languages from Brazil, and from the same family as Palikur, distinguish masculine and feminine genders only in deictics that are also used in the function of third person pronouns (Aikhenvald 1996:165–67).

As seen in section 3.2, gender assignment in Palikur is semantically complex. It is sex-based for humans; for other animates, it is based on species, size, and sex. For inanimates, it is based on a combination of physical properties—consistency, boundedness and shape, or form (see figure 1). Neuter has some properties of a residual class (abstract nouns and nominalizations, nonclassifiable otherwise, are neuter).

The use of physical properties in gender assignment for inanimate nouns is fairly well attested in the languages of the world. Typical properties associated with feminine gender are small size and round shape, as in some Afroasiatic languages, e.g., Dasenech, Oromo, and Amharic, or the East-Nilotic languages Turkana and Camus (Heine 1982), and in languages from the East Sepik region of Papua New Guinea, e.g., Alamblak (Bruce 1984) and Manambu. In harmony with this, masculine gender tends to be associated with long, big, and rigid
objects (cf. Croft 1994). Palikur is unusual in that feminine gender is assigned to inanimate nouns if they have constant shape and are rigid or bounded. But, unlike the masculine gender in the above mentioned cases, neuter gender in Palikur can be viewed as a semantically residual category that is used if a referent does not satisfy the criteria for the other genders.

4. Numeral classifiers. Palikur has at least eleven numeral classifiers of sortal type and eight classifiers of mensural type.\(^{21}\) The assignment of numeral classifiers is semantically based and fairly straightforward. Every noun in Palikur must take a numeral classifier. Unlike verbal classifiers (see section 5), numeral classifiers are obligatory. The semantics of Palikur numeral classifiers are analyzed in section 4.1, their morphological form and usage are described in section 4.2, and some of their typological properties are discussed in section 4.3.

4.1. Semantics of Palikur numeral classifiers. Palikur numeral classifiers are of sortal type (section 4.1.1), and of mensural type (section 4.1.2). Classifiers derived from body parts (section 4.1.3) share properties with both.

4.1.1. Sortal numeral classifiers. The basic semantic opposition in numeral classifiers is animate versus inanimate—see Croft (1994) on the universal character of animacy in numeral classifiers; for some exceptions, see Aikhenvald (forthcoming b). Animate classifiers fall into masculine and feminine types, and these are sex based.

Palikur has an obligatory “double marking” of animacy and of gender on the cardinal numbers ‘one’ and ‘two’ when these accompany an animate head noun. The assignment of gender that governs the agreement with cardinal numerals is much more semantically transparent than the assignment of gender discussed in section 3.2. It is sex based. Heavenly bodies (sun, moon) are masculine, as shown in figure 1 (section 3.2). There is no marking for gender on classifiers used with inanimate nouns. That is, there is a generic “animate” classifier, –p, but there is no generic inanimate form. The manner in which gender agreement operates on numeral classifiers used with animate masculine and feminine nouns is illustrated in (15) and (16).

(15) paha-p-ru tino
    one-NUM.CL:ANIMATE-f woman
    ‘one woman’

(16) paha-p-ri awayg
    one-NUM.CL:ANIMATE-m man
    ‘one man’

An inanimate head noun cannot take gender agreement on numeral classifiers, even though it may trigger gender agreement on demonstratives or verbs.
The noun *ahin* 'path' has neuter gender, as seen in (8). There is no gender agreement in (17).

(17) \textit{paha-tra} \textit{ahin}  
\quad one-\textscnumcl:extended path  
\quad 'one path'

The noun *warik* 'river' is feminine (see section 3.2). Example (18) shows how this noun does not take a gender agreement marker with a numeral, because it is inanimate.

(18) \textit{paha-tra} \textit{warik}  
\quad one-\textscnumcl:extended river  
\quad 'one river'

These examples demonstrate that gender distinctions on numeral classifiers show only a partial overlap with the gender system marked on predicates and modifiers discussed in section 3. (We will return to this in section 8.)

The assignment of inanimate numeral classifiers is based on physical properties of the referent: shape, which goes with consistency (flexible); dimensionality, which goes together with consistency (rigid, flexible), shape, and material; and boundedness. There are also three specific classifiers based on the nature of the referent.

The semantic organization of Palikur sortal numeral classifiers is shown in figure 2. Palikur is rich in geometrical terms (Green 1996). There is a term for each numeral classifier based on dimensionality, form, or boundedness. In figure 2, these are given in square brackets. Dimensionality in numeral classifiers in Palikur has three values. Classification of one-dimensional objects combines reference to their consistency (rigid); classification of three-dimensional objects combines reference to material. Thus, consistency is a secondary parameter in Palikur numeral classification.

The classifier *-t/-ta* is used for vertical objects, as in (19). It can also be used as a kind of residual classifier, with otherwise 'unclassifiable' abstract nouns, as in (20).

(19) \textit{ig \ ka-daha-ni} \textit{paha-t} \textit{ah}  
\quad 3m \text{ATT-for-POSS} \textit{one-\textscnumcl:vertical} stick  
\quad 'He had a stick.'

(20) \textit{paha-t} \textit{yuwit}  
\quad \textit{one-\textscnumcl:vertical} word  
\quad 'one word'
Figure 2. Semantics of Palikur sortal numeral classifiers. (The first form given for a classifier is the form that occurs with the number 'one', the second with 'two', and the third with other numbers.)
"Shape" has four values: linear, equally dimensioned, irregular or unequally dimensioned, and concave. The classifier \(-mku/-muk-\) ‘concave’ is the only example of semantic extension from a prototype: it is applied to concave objects traditionally made of wood and to a few newly introduced ones made of metal (e.g., bowls and ships). Following the extension by material, it also applies to other metal objects, all introduced by Europeans, such as knives and coins. Extension of this sort is fairly typical in noun classification systems (Downing 1996; Lakoff 1986). One classifier, \(-iku/-rik-\), is used for objects extended in any dimension and with boundaries; it applies to flat fields, or to three-dimensional holes and waterfalls, or to one-dimensional things, such as piles. There is only one specific classifier, \(-kti/-kat-\), for plants.

4.1.2. Mensural numeral classifiers. Palikur mensural classifiers occur in the same position on cardinal numbers as do sortal classifiers; they display a similar morphological behavior (infixed to ‘two’, suffixed to other numbers). Six of them refer to the way in which the objects are arranged; one classifier refers to ‘parts’, and one to ‘sides’ (see figure 3). Their choice only indirectly correlates with intrinsic animacy or with dimensionality and related properties of objects. Only the classifier \(-bru/-bohr-\ ‘group’ can be used with human or other animate referents. The classifier \(-ki/-ki-\ ‘tied bundles or strings’ is typically used with inanimates or dead animates, e.g., with dead fish. The classifier \(-bru/-bohr-\ ‘group’ can be used with human referents, nonhuman animates, and inanimates, as in (21)–(23), respectively.

Figure 3. Semantics of Palikur mensural numeral classifiers. (The first form given for a classifier is the form that occurs with the number ‘one’, the second with ‘two’, and the third with other numerals.)
(21) *paha-bru-me* tipik iwasa-e-gi-kis
    one-NUM.CL:GROUP-CON leave observe-COMPL-3m-PL
    ‘One group (of people) will leave and observe them (Arara Indians).’

(22) *paha-bru* upayan
    one-NUM.CL:GROUP duck
    ‘one flock of ducks’

(23) *pi-bohr-a* bot
    two-NUM.CL:GROUP-two boot
    ‘two pairs of boots’

Other mensural classifiers are not used with animate referents. The classifier *-i/-i- ‘series’ is used with spans of time, e.g., *paha-i mtipka* (one-NUM.CL: SERIES night) ‘one night’, or with other referents that come in a series, e.g., *paha-i kahikanau* (one-NUM.CL:SERIES breath) ‘one breath’.

### 4.1.3. Numeral classifiers derived from body parts

Two numeral classifiers are derived from body parts and can be used both as sortal and as mensural classifiers. They are *-biu/-biy- ‘mouth, mouthful’ and *-uku/-wok- ‘hand, handful’. As sortal classifiers, they are “unique,” i.e., they refer to individual objects, as in (24).

(24) *pi-wok-na* i-wak-ti
    two-NUM.CL:HAND-two INDF-hand-NON.POSS
    ‘two hands’

They can also be used as mensural classifiers, as in (25).

(25) *paha-uku-wa* kumat
    one-NUM.CL:HAND-EMPH beans
    ‘one handful of beans’

### 4.2. The morphology of Palikur numeral classifiers

Palikur has numbers from one to ten. Classifiers are suffixed to all numerals, with the exception of ‘two’, where they are infixed between the first and second syllables. This morphological difference in the behavior of ‘two’, as opposed to other numbers, is not uncommon in northern Amazonian languages. A similar phenomenon is found in Warekena (Aikhenvald forthcoming c).

The morphological divisions of Palikur numeral classifiers are shown in table 4. Some numeral classifiers combine only with numbers ‘one’ and ‘two’, some only with ‘one’, and some with numbers up to ten. Their morphological forms are often suppletive. For a language with numeral classifiers, there are typically more classifier distinctions for numbers ‘one’ and ‘two’ than there are for higher numbers (see section 8).
Table 4. Morphological Divisions of Palikur Numeral Classifiers

<table>
<thead>
<tr>
<th>Classifiers Used with 'One'</th>
<th>-uhri 'part'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classifiers Used with 'One' and 'Two'</td>
<td>-imku 'wrapped'</td>
</tr>
<tr>
<td>Classifiers with suppletive forms:</td>
<td>-p (m. -ri; f. -ru)/-ya- ‘animate’</td>
</tr>
<tr>
<td></td>
<td>-a/-sa- ‘irregular shape’</td>
</tr>
<tr>
<td></td>
<td>-u/-so- ‘round, square’</td>
</tr>
<tr>
<td>Classifiers with the same form for both numbers:</td>
<td>-t/-ta- ‘vertical’</td>
</tr>
<tr>
<td></td>
<td>-uku/-wok- ‘hand, handful’</td>
</tr>
<tr>
<td></td>
<td>-bak/-bk- ‘side’</td>
</tr>
<tr>
<td></td>
<td>-bru/-bohr- ‘group’</td>
</tr>
<tr>
<td></td>
<td>-i/-i- ‘series’</td>
</tr>
<tr>
<td></td>
<td>-ayh/-si/-psi ‘basketfuls’</td>
</tr>
</tbody>
</table>

Classifiers Used with Numbers Up to Ten

| One form for 'One' and 'Two'; different form for rest: | -k ~ -ka/-bu ‘flat’ |
| One form for all numbers:                               | -tra ~ -tahr- ‘curved flexible’ |
|                                                        | -mku ~ -muk- ‘concave’ |
|                                                        | -iku ~ -rik- ‘bounded’ |
|                                                        | -kti ~ -kat- ‘plant’ |
|                                                        | -biyu ~ -biy- ‘mouth, mouthful’ |
|                                                        | -twi ~ -tiw- ‘cluster’ |
|                                                        | -ki ~ -ki- ‘tied bundle’ |

NOTE: Where more than one form is given, the first form is used with ‘one’, the second with ‘two’, and the third with other numbers. Forms separated by a tilde (—) are allomorphs.

In certain circumstances, a numeral classifier can serve to identify a particular aspect of a polysemous inanimate noun, as in (26), or to stand in for a noun, as in (27).

(26) nah ka-daha-ni paha-kti pilatno
     1SG ATT-for-POSS one-NUM.CL:PLANT banana
     ‘I have one banana (plant).’

(27) ba pis muwaka ax paha-t
     INTER 2SG want eat one-NUM.CL:VERTICAL
     ‘Do you want to eat one (banana fruit)?’

Classifiers can be used headlessly as anaphoric devices, as in (28) and (29).

(28) kuri a-pim inin paha-p-ri
     now 3n-during this:n one-NUM.CL:ANIMATE-m
     miyap takuwa-nek paha-p-ri-me
     die:nf tomorrow-PROB one-NUM.CL:ANIMATE-m-CON
     ‘Today one dies, tomorrow the other one.’
(29) *ig-kis keh pi-ta-na ay-ta*
   3m-PL make two-NUM.CL:VERTICAL-two there-DIR
   ‘They made two (liters of honey) there.’

Both mensural and sortal classifiers, when used headlessly, can have an
adverbial function. ‘One’ with a sortal classifier and -*rumpi* ‘sequence’ used
headlessly means ‘one by one’, as in (30).

(30) *uwas tuguh-e pahou-rumpi*
   orange fall-COMPLETIVE one-NUM.CL:ROUND-sequence
   ‘Oranges fell one by one.’

Mensural classifiers when used headlessly can have a fairly idiosyncratic
meaning. *Paha-i* ‘one-series’ is normally used with periods of time, as shown
in (31).

(31) *ig ker-ye paha-i paka ka-te miyap*
   3m fight-DUR:nf one-NUM.CL:SERIES week NEG-UNR die:nf
   ‘He fought for one week without dying.’

When used headlessly, *paha-i* means ‘(at) once, all of a sudden’, as in (32).

(32) *paha-i-e ig miyap*
   one-NUM.CL:SERIES-COMPL 3m die:nf
   ‘Suddenly, he died.’

This kind of lexicalization appears to be a unique property of numeral classifiers
not found with other classifier types (see section 8).

As yet, little is known regarding the origin of numeral classifiers in Palikur. The
classifier for linear flexible objects, -*tra/-tahr-*, is related to the verbal root
tara- ‘extended’ (Green 1996:12). Three classifiers come from full nouns and are
“repeaters” (see Craig forthcoming): -*kat* ‘plant’ from akat ‘trunk, stem’, -*wok*
‘hand, handful’ from -*wak* ‘hand’, and -*biyu* ‘mouth, mouthful’ from -*biy*
‘mouth’. The classifier for flat objects, -*bo* (used with numbers bigger than two)
is similar to a verbal classifier with the same semantics, to be discussed in
section 5.1.

4.3. Typological properties of Palikur numeral classifiers. Numeral
classifiers fall into several subclasses according to (a) whether they are used
only with numbers ‘one’ and ‘two’, or with other numbers (up to ‘ten’) as well;
and (b) whether the classifier has the same form for ‘one’, ‘two’, and other num-
bers, or these forms differ. More classifier distinctions are found with lower
numbers (‘one’ and ‘two’) than with higher numbers. This follows the universal
principle whereby lower numerals take more classifiers than higher numerals.
In some languages (e.g., Minangkabau, an Austronesian language [Marnita
classifiers are obligatory only with 'one' and 'two'. In the majority of classifying South American languages, classifiers are always used with numbers 'one' and 'two', more rarely with 'three' and 'four' (see Aikhenvald 1996, forthcoming b).

5. Verbal classifiers. Verbal classifiers are suffixes that appear on the verb to characterize the S/O constituent in terms of its shape and other physical properties. General properties of Palikur verbal classifiers are discussed in section 5.1. The use of verbal classifiers with stative verbs is discussed in section 5.2, and with transitive verbs in section 5.3.

Another closed class of morphemes, incorporated names of body parts, can occur in the same verbal suffix position as do verbal classifiers.24 Their properties are analyzed and contrasted with verbal classifiers in section 5.4. In section 5.5, we will show that incorporated body parts do show certain indications of developing into classifiers. A typological perspective on Palikur verbal classifiers is given in section 5.6.

5.1. General properties of Palikur verbal classifiers. Verbal classifiers in Palikur are typologically unusual in two ways. First, there are effectively two sets of verbal classifiers. One set is used on stative verbs to refer to the subject, or to the head noun if a stative verb is used as a modifier. The other is used on transitive verbs, to refer to the objects of these verbs and to the derived subjects of detransitivized passive verbs.25 Second, the use of verbal classifiers is restricted to certain semantic types of verbs, whether stative or transitive.

The assignment of verbal classifiers is semantic and shape based. There are no distinctions based on animacy; all animate nouns are treated as 'irregular-shaped'.26 Verbal classifiers can be used without the overt noun phrase. Similar to what we saw with numeral classifiers, an inanimate noun can be used with any of several different classifiers, depending on the aspect of the S/O constituent that is involved in the action. All verbal classifiers are optional. They are used if the corresponding constituent (S/O) is fully involved in the activity or displays a full measure of a property; or the action or state involves the entire surface of the object. The semantics and forms of Palikur verbal classifiers are given in figure 4.27 If a classifier is used with both stative and transitive verbs, the first form is the one used with a stative verb, and the second one is used with a transitive verb (surface differences are due to morphophonological processes). Two forms, -kisa 'edge' and -kat 'trunk', occur only with stative verbs.

Semantically, verbal classifiers are based on the form and dimensionality of objects.28 The classifiers used with stative verbs distinguish more different parts of objects and make several additional, possibly subtler, distinctions. Thus, -kig 'pointed', used with transitive verbs, covers a domain that is divided between -kiya 'pointed' and -kisa 'edge' for stative verbs. Likewise, -min 'vertical', used with transitive verbs for one-dimensional thin and rigid objects, corresponds to
-min and -kat ‘trunk’ for stative verbs.29 The origin of most verbal classifiers is unknown. At least three come from parts of the body or parts of a plant: -kig ‘pointed’ is related to -kig ‘nose’, -pewa/-peru ‘branchlike’ is related to -peru ‘branch’ (cf. a-peru ‘on a branch’), and -kat is related to akat ‘trunk (of a tree)’.

**Figure 4.** Palikur verbal classifiers. (The first form given is used with stative verbs; if a second form is given, it is used with transitive verbs.)

### 5.2. Verbal classifiers on stative verbs

Verbal classifiers are used on stative verbs of the following semantic types (following Dixon 1991:78–79):

1. dimension, e.g., pugum ‘large, thick, big’, imu ‘tall’
3. color, e.g., pahi ‘black’, sey ‘white’, duruweh ‘red’, ayeweye ‘blue, green’, kuwikwiye ‘yellow’

Stative verbs of other semantic groups—such as speed, age, difficulty, qualification, human propensity, and value—do not co-occur with classifiers.31 Verbal classifiers have a limited use as derivational affixes; when added to some nouns, they transform them into color terms, e.g., ahamna-bo-ye (leaf-V.CL:flat-DURnf) ‘leaf-colored’, or ‘green’.

Verbal classifiers are only used if the stative verb describes the complete involvement of the subject, or of the head of a head-modifier construction. In
(33), -pti, an allomorph of -pit ‘irregular’, is used to indicate the complete blackness of the bird’s feathers.

(33) **gu-sipri **puhi-PTI-ye
    3SGf-feather black-V.CL:IRREGULAR-DURnf
    ‘Her (the bird’s) feathers are black all over/are completely black.’

Similarly, the use of a classifier may imply a higher degree of a quality. In (34), the classifier -pit is used because the man is very handsome.

(34) **ay-ne-wa **ig away g pes ig ipeg
    here-same-EMPH 3m man come.out 3m look
    **barew-PIT-ye **awayg
    beautiful-V.CL:IRREGULAR-DURnf man
    ‘Immediately, the man came out (into the garden). He (woman’s brother) looked (and saw): it was an absolutely handsome man (without defects, handsome in every way).’

The same term barew, but in the sense of ‘clean’, is illustrated in (35), which is from a text about Arara Indians. Verbal classifiers are often accompanied by the suffix -apa—‘total involvement of S/O’, to emphasize the completeness of an action or quality. Example (35) describes the “savage” Arara Indians who wore no clothes and shaved their heads.

(35) **gi-ay-tak-kis-me **barew-PIT-APA-e **gi-tew-kis
    3m-some-ELAT-PL-CON clean-V.CL:IRREGULAR-total-COMPL 3m-head-PL
    ‘Some, however, [had] shaven heads’ (lit., ‘Some, their heads were completely clean’)

In (36), the classifier is used, while the noun to which it refers is omitted. The complete involvement of the subject is marked twice—with a ‘repetitive’ marker (REP) on the verb and with the classifier -pita, an allomorph of -pit ‘irregular’.

(36) **eg wanak-ka **a-kak ini mawru barew tamak-ka eg
    3f tie-COMPL-PASS 3n-with this:n cotton beautiful paint-PASS 3f
    **tamak-ka barew ka-si-si-PITA-e **
    paint-PASS beautiful ATT-REP-feather-V.CL:IRREGULAR-COMPL
    ‘It (the shaman’s rattle: feminine) was tied with a cotton string. It was painted beautifully. It had feathers on it (all over).’

5.3. **Verbal classifiers on transitive verbs.** Palikur verbal classifiers are used with transitive verbs that imply direct physical contact with the object. These include:

2. positional verbs, such as ‘hang’, ‘stand’, or ‘lie’

Verbal classifiers are also used with telic verbs such as ‘look’ (as opposed to ‘see’). Accordingly, classifiers are not used with verbs denoting mental processes, such as ‘think’ or ‘remember’, or with verbs that do not involve direct physical contact with the object, such as ‘see’, ‘hear’, or ‘say’. They are only used if the object is not intrinsically completely involved in the action. Thus, they are not used with the verb ‘kill’, since it always involves the whole object—“noncomplete killing” would not be killing at all. Verbal classifiers are not obligatory. As mentioned in section 5.1, they must be used if the object of a transitive verb or the derived subject of an intransitive verb (reflexive or passive) is completely involved in the action, as in (37) and (38), respectively.

(37) yak-pit-apa-e-gu-kis  nikwe
    sting-V.CL:IRREGULAR-total-COMPL-3F-PL therefore
    ‘So (the killer bees) stung them (their bodies) all over.’

(38) ig  pituk-mina-wa  a-r-iw
    3m break.out-V.CL:VERTICAL-REFL 3n-EP-away.from
    ‘He broke (himself) out of the cord.’ (lit., ‘He broke his own vertical parts (i.e., his arms and legs), which were tied by a cord.”)

The following pair of examples illustrates the contrast between performing an action “a little,” as in (39), and doing it with the object completely involved, as in (40). The narrator partially unties the cotton string that was wound around the head of a shaman’s rattle in (39), and then he unties it completely to see if the rattle is a fake, in (40). Only in the latter case is the classifier –pita ~ –pit ‘irregular shape’ used.

(39) nikwe  nah  watak-e  ini  mawru
    therefore 1SG untie-COMPL this:n cotton
    ‘So I untied the cotton string (a little).’

(40) nah  watak-pita-e  nah  watak-pita-e
    1SG untie-V.CL:IRREGULAR-COMPL 1SG untie-V.CL:IRREGULAR-COMPL
    ka-yes-te
    ATT-size-COMPAR
    ‘I untied the string; I untied it more.’

Classifiers are more likely to be used if the object or subject is the topic. Example (41) comes from the same text as the previous two examples. The classifier is used on wanak ‘tie’ because gu-apitiw, the ‘head’ of the rattle, is the topic of this portion of the text.
(41) **gu-apitiw wanak-pita-ka a-kak mawru**
    3f-head tie-V.CL:IRREGULAR-PASS 3n-with cotton
    ‘The head [of the rattle] is tied (all over) with cotton.’

Classifiers can also be used if the object or the derived subject is unusual, as
a kind of focus marker. The verb ‘cook’ is rarely used with verbal classifiers
because, as with ‘kill’, cooking presumably always implies complete involve-
ment of the object. However, a classifier is used in (42), where the snake is about
to cook a person, which is an unusual object to cook.

(42) **eg iw-e-gi ay-ta-re nikwe-ni eg bat-ha-kis un**
    3f take-COMPL-3m there-DIR-ANA therefore-PAUS 3f seated-VRBZR-CAUS water
    awah-wa-ye un a-daha-ni sakah-pita-e-gi
    hot-DURm water 3n-for-POSS cook-V.CL:IRREGULAR-COMPL-3m
    ‘She (snake) took him (man) there [and] put hot water on to cook him.’

5.4. **Incorporated names of body parts.** Incorporated names of body parts
occur in the same slot as verbal classifiers and with the same types of stative
and transitive verbs. Body-part incorporation in Palikur is not productive.
The body parts that may be incorporated are a closed set and are given in table 5.
Incorporated body parts either formally coincide with the full nouns, or are
reduced forms of these. Similar forms appear on stative and transitive verbs.

<table>
<thead>
<tr>
<th>Body Part</th>
<th>With Stative Verbs</th>
<th>With Transitive Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>duk ‘chest’</td>
<td>-duk</td>
<td>-duka</td>
</tr>
<tr>
<td>kugu ‘foot’</td>
<td>-kug</td>
<td>-kuga</td>
</tr>
<tr>
<td>wak ‘hand’</td>
<td>-ok</td>
<td>-oka</td>
</tr>
<tr>
<td>tew ‘head’</td>
<td>-tiw</td>
<td>-tew</td>
</tr>
<tr>
<td>utyak ‘eye’</td>
<td>-ot</td>
<td>-(h)ot(a)</td>
</tr>
<tr>
<td>biy ‘mouth’</td>
<td>-bi</td>
<td>-biya</td>
</tr>
<tr>
<td>tip ‘top (lid)’</td>
<td>-tip</td>
<td>-tipa</td>
</tr>
</tbody>
</table>

The position that incorporated body parts occupy in Palikur verb phrases is
rather unusual for an Amazonian language. In quite a few such languages, in-
corporated body parts are placed preverbally, e.g., in Mundurukú (Tupi), Yan-
mami, Tupi-Guarani, Panoan, and Nadëb (Makú)—see Aikhenvald (1996). In
Palikur, they occur in the first suffix position following the verb root (see note
24). Since this is also the position occupied by verbal classifiers, incorporated
body parts and verbal classifiers cannot co-occur (Green and Green 1972).

Incorporated body parts and verbal classifiers differ with regard to three
aspects of their morphosyntactic behavior. First, while verbal classifiers only
characterize the S/O constituent, but do not replace it, incorporated body parts
have the function of the object of a transitive verb or the subject of a stative verb.
In such circumstances, there is no overt noun phrase in the object function, as shown in (43), unless the object is a possessor (see below).

(43) kuri ig hakis-ota-ne han akiw
    now 3m rub-eye-CONTnf thus again
    ‘He continued rubbing his eyes again.’

Second, if a verb phrase contains an incorporated body part in the object slot (see note 24; note also that body parts in Palikur are obligatorily possessed), the possessor is raised to direct object. This is a well-known strategy in incorporating languages (“type II” in Mithun 1984; cf. Evans 1996). The possessor may be cross-referenced on the verb with an object suffix, as in (44), or it may be expressed with a full noun phrase as in (45).

(44) ig-kis hapis patuk-ot-bet-h-e-gi
    3m-PL shoot burst-eye-MULTIPLE-INT-COMPL-3m
    ‘They shot his eyes out.’ (lit., ‘They eye-shot-him.’)

(45) nikwe ig ariya-e ta a-r-ot-r-iku-t tiket a-daha-ni
    therefore 3m heat.up-COMPL DIR 3n-EP-eye-EP-inside-DIR fire 3n-for-POSS
    hakis-ota bakimni-ayh
    rub-eye child-PL
    ‘Therefore, he heated it (brushwood) up in the fire in order to rub the eyes of the children.’ (lit., ‘eye-rub the children’)

Third, if a stative verb contains an incorporated body part, there is always a possessed-possessor relationship between the body part and the subject. This is different from the function of verbal classifiers used in the subject slot of a stative verb. This difference is illustrated in (46) and (47). Example (46) contains a verbal classifier, and (47) contains an incorporated body part. Example (48) is another instance of body-part incorporation on a stative verb. While verbal classifiers refer to a particular shape-related property of the subject, incorporated body parts show a part-whole relationship with the subject.

(46) in barew-buk
    this:n clean-V.CL:LINEAR
    ‘This (the cord) is clean.’

(47) eg barew-kug
    3f clean-foot
    ‘She is clean-footed.’ (i.e., ‘Her feet are clean.’)

(48) ig barew-tiw
    3m clean-head
    ‘He is bald.’ (lit., ‘clean-headed’).
Body part incorporation is not obligatory in Palikur, unlike in some other South American Indian languages. The conditions under which body part incorporation is used are different from the conditions for the use of verbal classifiers. A body part in object function does not get incorporated if it refers to one individual body part. In (49), the narrator’s spirit tells him to put just one hand in the water, and so there is no body-part incorporation.

(49) \textit{subuk pi-wak a-hakwa-t un}  
\textit{submerge 2SG-hand 3n-in.WATER-DIR\ water}  
‘Put your hand in the water.’

Examples (50) and (51) illustrate the difference between an incorporated body part, ‘(both of) my eyes’, and a nonincorporated individual incorporable body part, ‘one eye’, respectively.

(50) \textit{nah sukuh-hot-aw}  
1SG wash-eye-REFL  
‘I washed (both of) my eyes’ (lit., ‘I eye-washed myself.’)

(51) \textit{nah sukuh nu-uty-ak}  
1SG wash 1SG-eye-REC  
‘I washed one eye.’

An incorporated body part and a nonincorporated one (with the same reference) in object function can co-occur if the complete involvement of a body part is being focused on. This is shown in (52).

(52) \textit{nah sukuh-hot-aw nu-uty-ak}  
1SG wash-eye-REFL 1SG-eye-REC  
‘I washed both of my eyes.’ (and not, for example, my ears)

A body part is not incorporated if it is in contrastive focus, as in (53). This example comes from a story considered very humorous by the Palikur. Here, one bird takes the man by his feet, and the other one takes him by his head. The point of focusing on body parts is that it is funny: the humming bird cannot normally grab or carry anyone.

(53) \textit{eg tukus kamax gi-kugku eg-me karuw kamax gi-tew-ha}  
3f humming.bird catch 3m-foot 3f-CON hawk catch 3m-head-POSS  
\textit{eg-kis amara-e gi-kak}  
3f-PL fly-COMPL 3m-with  
‘The humming bird caught hold of his feet. The hawk grabbed his head. They flew away with him.’

Incorporated body parts and verbal classifiers are thus used under different semantic conditions. While the use of a classifier is linked, basically, to the
completeness of involvement of the O/S in the action, the use of an incorporated body part implies the lack of individuation of a noun in the O/S function and that it is not the focus of the utterance.

Another important difference in behavior between incorporated body parts and verbal classifiers concerns the possibilities for lexicalization of the former. Only incorporated body parts can become lexicalized with certain verbs. That is, they may be incorporated in unique idiomatic expressions in which the meaning of the whole cannot be determined on the basis of the meaning of the parts. This happens both with transitive verbs, as in (54), and with stative verbs, as in (55). Nothing of this sort ever happens with verbal classifiers.33

(54) \textit{kamax-duka} \\
\textit{grab-chest+REFL} \\
\textquoteleft He had a quick snack.' (lit., 'He grabbed his own chest.')

(55) \textit{nah barew-wok} \\
\textit{1SG clean-hand} \\
\textquoteleft I am poor, destitute.' (lit., 'I am clean-handed.')

5.5. Similarities between verbal classifiers and incorporated body parts. In section 5.4, we focused on how incorporated body parts and verbal classifiers differ in their morphosyntactic behavior, conditions of use, and semantic effects, and in their ability to enter into lexicalization processes.

Verbal classifiers and incorporated body parts occur with the same verb types, share the same S/O functions, and occupy the same suffix position in verb structure. Besides these, there are several additional similarities between verbal classifiers and incorporated body parts. Verbal classifiers allow reclassification of a noun depending on which part of it is in focus. Consider (56), from a story about canoe-making. The overt reference to \textit{umuh} 'canoe' is omitted, but 'canoe' is cross-referenced with the third person feminine object pronoun –\textit{gu}, suffixed to the verb. This sentence contains two occurrences of the verb \textit{bak} 'split'. The first refers to the splitting out of the hull of the canoe, and the classifier \textit{–mina ~ –min} 'vertical' is used to refer to its vertical shape. The second, with the classifier \textit{–muh} 'side', refers to the sides of the log out of which the canoe is being made.

(56) \textit{wis-uh bak-mina-e-gu bak-muh-kis-e-gu} \\
\textit{1PL-EXCL split-V.CL:VERTICAL-COMPL-3f split-V.CL:SIDE-CAUS-COMPL-3f} \\
\textquoteleft We split it (a log) apart and chip its sides smooth.'

Examples (57) and (58) illustrate a similar phenomenon involving stative verbs.

(57) \textit{barew-muh umuh} \\
\textit{clean-V.CL:SIDE canoe} \\
\textquoteleft clean-sided canoe\textsuperscript{34}
A part-whole relationship between the noun and the classifier in these examples is reminiscent of the role incorporated body parts play in (45), (47), or (48). And, on the other hand, incorporated body parts can sometimes be used to characterize the shape of the noun in object function. This is what verbal classifiers usually do. One such example is (59). The incorporated body part hot ‘eye’ can be interpreted in two ways: either as possessor raising, similar to (45), or as referring to a round-shaped inside part (the ‘eye’) of a wound.

Thus, there is a tendency for incorporated body parts to be used similarly to verbal classifiers; conversely, verbal classifiers also show functional similarities with incorporated body parts. We mentioned in section 5.1 that at least three verbal classifiers derive from parts of the body or from parts of plants. There is, then, a tendency for body parts to become grammaticalized as verbal classifiers. This is a typologically well-attested phenomenon. See, for example, Mithun (1984), on “classificatory” noun incorporation. See also Evans (1996:76–78) on the two distinct functions, that of verbal classifiers and that of incorporated body parts, that body parts have in Mayali, an Australian language.

5.6. Palikur verbal classifiers in typological perspective. In Palikur, verbal classifiers divide into two groups—those that are used with stative verbs, and those that are used with transitive verbs. Among stative verbs, only those that refer to dimension, physical properties, and color take classifiers. Among transitive verbs, classifiers are used only with those that imply the possibility of direct physical contact with the object (or the derived subject of a passivized verb). Thus, verbal classifiers are used to focus on the shape of an object completely involved in an activity. Apparently, properties related to form and dimensionality are only important when direct physical contact is implied. There is an analogy to suppletive classificatory verbs in certain North American Indian language families, notably Athabaskan and Iroquoian, and also in certain languages of Central and South America, e.g., Ika, from Colombia (Frank 1990). Suppletive classificatory verbs in Athabaskan languages refer to concrete objects, and they describe “objects at rest, in motion, being handled, being dropped, or falling” (Carter 1976: 24). In Ika, they refer to location or “handling” of an item (i.e., putting or carrying) (Frank 1990).

Unlike Athabaskan languages or Ika, every noun in Palikur can be classified. However, classifiers are not obligatory, and their use depends on the com-
pleteness of the involvement of the object or subject or on its status in the discourse. Having two sets of verbal classifiers that have some formal and semantic differences, one for stative verbs and the other one for transitive verbs, is another typologically rare property of Palikur. In a way, this can be compared to how two sets of verbal classifiers operate in some northern Athapascan languages. Languages like Koyukon (Axelrod forthcoming; Thompson 1993) have classificatory verb stems and verbal classifiers prefixed to verbs. Classificatory verbs are suppletive stems that are used depending on the shape of the subject of some stative verbs (mostly positional verbs) and of the object of some transitive verbs (mostly verbs of eating and manipulation). Two prefixed verbal classifiers (labeled "genders" in the Athabaskan linguistic tradition) refer to an S/O argument, characterizing it in terms of its shape (round and elongated). Verbal classifiers in Palikur differ from classifiers in Athabaskan languages in that, in Palikur, the two sets overlap and their use is not obligatory.

6. Locative classifiers. Palikur has a set of morphemes that function as locative adpositions, meaning 'on' or 'in'. Their choice depends on the shape and boundedness of the head noun. These morphemes, called "locative classifiers," display certain formal and semantic similarities with other classifier morphemes, used in different contexts. The semantics and other properties of locative classifiers are discussed in section 6.1. A crosslinguistic perspective on locative classifiers is given in section 6.2.

6.1. Properties of Palikur locative classifiers. Similarly to verbal classifiers, but unlike numeral classifiers, locative classifiers do not make any formal distinctions between animate and inanimate nouns (see section 6.2 regarding locative classifiers in other languages that also make no animacy distinctions). Locative classifiers are based on shape, dimensionality, and boundedness. The classifier -bet, used for unbounded substances (e.g., mud, clay, and feces), also plays the role of a residue classifier—it is used for otherwise unclassifiable items. These include abstract nouns, such as thoughts, dirt, darkness, coolness, and suffering. There are two specific classifiers: -hakwa 'WATER' and -viku 'ROAD, RIVER'. Palikur locative classifiers and their semantics are shown in figure 5. These classifier morphemes when used as locative adpositions mean 'on' or 'in'. They are illustrated in (60) and (61).

(60) pis keh paha-t arab pi-wan-min
    2SG make one-NUM.CL:VERTICAL shield 2SG-arm-ON.VERTICAL
    'You make a shield on your arm.'

(61) ig-kis ute-e-gi ig motye ay-h-te a-peru ah
    3m-PL find-COMPL-3m 3m wasp there-INT-distal 3m-ON.BRANCHLIKE tree
    'They found the wasps on the tree.'
The person, number, and gender of the head noun can be cross-referenced on them (see appendix 2). They can also co-occur with the following locative suffixes to form directionals, elatives, and perlatives: -t 'directional: into, to' -tak 'elative: from', -iu 'perlative: along'. The use of -t 'directional: into, to' is illustrated in (62).

(62) wis-uh *tarak-e-gu a-hakwa-t un
1PL-EXCL push-COMPL-3f 3n-in.WATER-DIR water
'We push it (the canoe) into the water.'

In an adpositional phrase, the head can be omitted. Then a locative classifier is used headlessly, as in (63).

(63) ka-daha-ni warukma gu-madka
ATT-for-POSS big.star 3f-on.FLAT
'It (rattle: feminine, flat) had a big star on it.'

Further examples of -madka 'on: flat' are in appendix 2.

Similarly to what is found with numeral and verbal classifiers, different locative classifiers can be used, depending on which characteristics of a noun are being focused on. Consider the following examples. In (64), a locative classifier -buhkumna 'linear' is used with akati 'cord' to indicate that crows are sitting

<table>
<thead>
<tr>
<th>Shape</th>
<th>Locative Classifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear</td>
<td>-buhku(mna)</td>
</tr>
<tr>
<td>Irregular or round</td>
<td>-pit</td>
</tr>
<tr>
<td>Pointed</td>
<td>-kigsa</td>
</tr>
<tr>
<td>Branchlike</td>
<td>-peru</td>
</tr>
<tr>
<td>Sharp-edged</td>
<td>-kigbi(mna)</td>
</tr>
<tr>
<td>Concave, three</td>
<td>-apa</td>
</tr>
<tr>
<td>Dimensionality</td>
<td></td>
</tr>
<tr>
<td>Two dimensional: flat</td>
<td>-madka</td>
</tr>
<tr>
<td>One dimensional:</td>
<td>-min</td>
</tr>
<tr>
<td>Boundedness</td>
<td></td>
</tr>
<tr>
<td>Bounded: within a</td>
<td>-iku</td>
</tr>
<tr>
<td>Periphery, inside</td>
<td></td>
</tr>
<tr>
<td>Unbounded: substances</td>
<td>-bet</td>
</tr>
<tr>
<td>(mud, porridge, hair); otherwise unclassifiable items</td>
<td></td>
</tr>
<tr>
<td>Specific</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>-hakwa</td>
</tr>
<tr>
<td>Road, river</td>
<td>-vigku</td>
</tr>
</tbody>
</table>
along it. In (65), -min ‘vertical’ is used since no horizontal extension of a cord is implied. Number marking with nonhumans is optional in Palikur. Note that -buhkumna in (64), translated as ‘on/along’, presupposes a plural reading for the subject ‘crow’, while -min in (65), translated as ‘on’, presupposes that ‘crow’ is singular. Thus, one can infer a singular or plural reading from a classifier choice.

(64) yu bat a-buhkumna paha-tra akati
    crow sit 3n-on.LINEAR one-NUM.CL:LINEAR cord
    ‘Crows sat on/along a (horizontal) cord.’

(65) yu bat a-min paha-tra akati
    crow sit 3n-on.VERTICAL one-NUM.CL:LINEAR cord
    ‘A crow sat on a (vertical) cord.’

Unlike numeral classifiers, locative classifiers can sometimes be used as derivational affixes, e.g., ma-hakwa (\?-in.WATER) ‘lake’, or paraw-hakwa (waves-in.WATER) ‘ocean’. More commonly, they co-occur with a derivational suffix -ya ‘pertaining to’, e.g., pi-duk-madka-ya (2SG-chest-on.FLAT-PERT) ‘the flat part of your chest, your breast plate’, or a-kigbimna-ya (3n-on.EDGED-PERT) ‘its frame’.

There is another set of locative adpositions that contain body parts. Their use is similar to locative classifiers, but unlike locative classifiers, they are always accompanied by another locative morpheme, e.g., -nume-ku (lips-LOC) ‘in a doorway, along the banks of a river, or along the road’; -ot-gik (eye-LOC) ‘in the eye’, i.e., in the round, middle part of a wound, a fire, etc.; and -tew-ha (head-LOC) ‘on top of the head, a protruding part’. It appears that body parts are developing into locative classifiers, in the same way as some of them are developing into verbal classifiers (see section 5.4). Little is known about the origin of the present locative classifiers, but two of them probably originated from body parts: -kiga ‘on.POINTED’ is related to -kig ‘nose’; -vigku ‘on.ROAD, RIVER’ derives from -vigik ‘bone, marrow’.

6.2. Crosslinguistic perspective on Palikur locative classifiers. Locative classifiers are an extremely rare phenomenon in the languages of the world (see section 2.1). In Palikur, they co-occur with oblique case markers. In a manner similar to numeral classifiers, but unlike verbal ones, they are obligatory. Unlike numeral classifiers, they can be used as derivational suffixes.

Regular correlations between the shape of the head noun and the choice of an adposition have been noticed in a number of other northern Amazonian languages (see note 17). Sometimes, locative classifiers are analyzable, and sometimes they are not. One such example is from Lokono, an Arawak language (Aikhenvald 1996; Pet 1987:37–38). Here, there is a smallish set of postpositions, the choice of which correlates with the physical properties of the noun:
loko ‘inside’ (a solid or empty object), koborokon ‘inside’ (an animate being), and kolokon ‘inside’ (fire or light). The correlation between the choice of a postposition and the shape or consistency of the head noun is typical of a number of Carib languages (e.g., Apalai, Hixkaryana, Macushi, and Wai Wai—see Derbyshire forthcoming). Table 6 shows the locative classifiers found in Apalai.

Table 6. Apalai Locative Classifiers

<table>
<thead>
<tr>
<th></th>
<th>IN/ON</th>
<th>INTO/onto</th>
<th>VIA/FROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>liquid</td>
<td>kua-o</td>
<td>kua-ka</td>
<td>kua-e</td>
</tr>
<tr>
<td>fire</td>
<td>hta-o</td>
<td>hta-ka</td>
<td>hta-e</td>
</tr>
<tr>
<td>small container</td>
<td>s-o</td>
<td>s-ka</td>
<td>s-e</td>
</tr>
<tr>
<td>large place</td>
<td>ta-o</td>
<td>ta-ka</td>
<td>ta-e</td>
</tr>
<tr>
<td>flat place</td>
<td>po</td>
<td>po-na</td>
<td>po-e</td>
</tr>
<tr>
<td>polelike</td>
<td>poko</td>
<td>pokoi-na</td>
<td>pokoi-no</td>
</tr>
<tr>
<td>river</td>
<td>na-o</td>
<td>na-ka</td>
<td>na-e</td>
</tr>
<tr>
<td>hammock</td>
<td>tapo</td>
<td>tapo-na</td>
<td>tapo-e</td>
</tr>
</tbody>
</table>


Dâw, a Makú language from the northwest Amazon basin, has four locative postpositions, the choice of which is determined by the shape and consistency of the head noun (Martins 1994:53–55). Two of them are illustrated below. Locative classifiers are fused with locational markers, just as in Palikur. In (66), -ked ‘in.HOLLOW’ is used with xoo ‘canoe’. In (67), -mî is used with náâx-pis ‘water (= river) small’. Example (68), in which -mî ‘in.LIQUID’ is used with xoo ‘canoe’, is ungrammatical.

(66) xoo-ked (Dâw)
    canoe-in.HOLLOW
    ‘in a canoe’

(67) náâx-pis-mî (Dâw)
    water-small-in.LIQUID
    ‘in a small river’

(68) *xoo-mî (Dâw)
    canoe-in.LIQUID

The classificatory postposition -mî ‘in liquid’ is cognate with the noun mi ‘water’ in Nadëb, a language from the same family (Silvana Martins p.c. 1994).

7. Classifiers in possessive constructions.

7.1. Properties of Palikur possessive classifiers. Another set of classifiers in Palikur, which is completely independent of the classifier types outlined
above, are classifiers used in a possessive noun phrase to characterize the possessed noun. Unlike other classifiers and genders, not all nouns in the language require a possessive classifier. Their use is restricted to alienably possessed referents of nouns that cannot take possessive affixes—similar to what is seen in (4), from Apalai. The semantic relationship between the classifier and the possessed noun is generic-specific, as shown in table 7. Referents are classified depending on their functions, or the ways in which they can be handled: fruit can be eaten or planted, animals can be domesticated, or caught for food.

<table>
<thead>
<tr>
<th>CLASSIFIER</th>
<th>MEANING</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>-pig</td>
<td>'pet'; used with domesticated animals</td>
<td>gi-pig peuru (3m-pet dog) 'his dog', gi-pig mutom 'his sheep'</td>
</tr>
<tr>
<td>-mana</td>
<td>'food'; used with fruit and vegetables</td>
<td>pi-mana uwas (2SG-food orange) 'your orange'</td>
</tr>
<tr>
<td>-mutra</td>
<td>'plant'</td>
<td>n-amutra pilatno (1SG-plant banana) 'my banana plant' ('the one I planted')</td>
</tr>
<tr>
<td>-win</td>
<td>'catch, animal caught to be eaten'</td>
<td>nu-win arudiki (1SG-catch tapir) 'my catch-tapir' ('the tapir I caught')</td>
</tr>
<tr>
<td>-kamkayh</td>
<td>'child'</td>
<td>nu-kamkayh awayg (1SG-child boy) 'my son', nu-kamkayh tino (1SG-child daughter) 'my daughter'</td>
</tr>
</tbody>
</table>

7.2. Palikur possessive classifiers in typological perspective. Palikur has five generic terms (see table 7) used as possessive classifiers with alienably possessed nouns. This system of possessive classifiers is similar to those found in other languages (e.g., Yuman, Uto-Aztecan, or Carib—see Carlson and Payne [1989] for more examples). Unlike all other classifier systems in Palikur, not all nouns can take a possessive classifier. This system is strikingly similar to possession in Carib languages such as Macuxi and Apalai (cf. Derbyshire forthcoming), and in Island Carib (Aikhenvald forthcoming a), a North Arawak language that has suffered strong Carib influence. Palikur is, in some ways, atypical of Arawak languages. Bearing in mind long-term (and not too peaceful!) contacts of Palikurs with Galibi and, possibly, other Carib peoples, one may hypothesize that perhaps Palikur acquired possessive generics under Carib influence. It is, however, not impossible that possessive classifiers developed in Palikur as an independent phenomenon, as they probably did in Nadëb, a Makú language from the Middle Rio Negro (Weir 1984), or in Kipeá-Kiriri, an extinct Macro-Jê language formerly spoken in northeastern Brazil (Rodrigues forthcoming).
8. Palikur gender and classifiers: an evaluation. Palikur has a gender system and four types of classifiers. An overview of the properties shared by these noun classification devices and the ways in which they differ is given in section 8.1. The semantics of classifiers of different types is contrasted in section 8.2, some ideas as to their origins are offered in section 8.3, and a summary is presented in section 8.4.

8.1. Overall comparison of the systems. Palikur numeral classifiers, verbal classifiers (with two subtypes), and locative classifiers show a degree of congruence—i.e., the same forms are used in some instances, and there is a significant overlap in semantics. As can be seen in table 8, there is a significant overlap between the inventories of verbal and locative classifiers, and some overlap with numeral classifiers. The gender system and the possessive classifiers are independent.

Noun classification systems differ on a number of points, but they also have some properties in common. These are discussed below. The two sets of verbal classifiers show the same properties. These properties are summarized and contrasted in table 9.

8.1.1. Morphological form. Noun classification devices in Palikur differ in morphological complexity. Gender has two or three agreement forms depending on the type of construction they are used in. There are also a few morphologically irregular gender forms (see table 3). Numeral classifiers fall into several subgroups, depending on what numbers they are used with: some are used only with the number ‘one’, some with numbers ‘one’ and ‘two’, and some with other numbers as well. Unlike gender systems, restrictions on the number of forms every numeral classifier has are idiosyncratic for each particular classifier (see table 4). Several numeral classifiers have suppletive forms. Classifiers of other types do not have restrictions on how many forms they have, nor do they show any morphological irregularities.

Classifiers differ in their morphological status. Verbal and numeral classifiers are bound morphemes. Numeral classifiers may be suffixes, or in the case of those used with the number ‘two’, infixes. Verbal classifiers are suffixes. Gender markers can be suffixes, or prefixes, or infixes (see tables 1 and 2). Possessive and locative classifiers have a different status. Locative classifiers are either attached to the noun or are used independently with a person-marking prefix. Possessive classifiers always have a person-marking prefix.

Locative classifiers are used as derivational suffixes. Genders and verbal classifiers have a limited use as derivational markers (cf. note 8). Other classifiers are not used in this way.40
<table>
<thead>
<tr>
<th>SEMANTICS</th>
<th>NUMERAL CLASSIFIERS</th>
<th>VERBAL CLASSIFIERS WITH STATIVE VERBS</th>
<th>VERBAL CLASSIFIERS WITH TRANSITIVE VERBS</th>
<th>LOCATIVE CLASSIFIERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>animate</td>
<td>-p</td>
<td>-pit</td>
<td>-pit</td>
<td>-pit</td>
</tr>
<tr>
<td>round, square</td>
<td>-u/-so</td>
<td>-pit</td>
<td>-pit</td>
<td>-pit</td>
</tr>
<tr>
<td>irregular shape</td>
<td>-a/-sa</td>
<td>-pit</td>
<td>-pit</td>
<td>-pit</td>
</tr>
<tr>
<td>side</td>
<td>-a/-sa</td>
<td>-muh</td>
<td>-muh</td>
<td>-pit</td>
</tr>
<tr>
<td>vertical objects</td>
<td>-t/-ta-</td>
<td>-min</td>
<td>-min</td>
<td>-min</td>
</tr>
<tr>
<td>rigid, thin</td>
<td>-t/-ta-</td>
<td>-ah</td>
<td>-min</td>
<td>-min</td>
</tr>
<tr>
<td>flat</td>
<td>-k/-ka/-bu</td>
<td>-boha</td>
<td>-bo</td>
<td>-madka</td>
</tr>
<tr>
<td>concave; numeral classifier: metal</td>
<td>-mku/-muk</td>
<td>-apa</td>
<td>-ap</td>
<td>-madka</td>
</tr>
<tr>
<td>edge</td>
<td>-mku/-muk</td>
<td>-kiya</td>
<td>-kig</td>
<td>-kigbi</td>
</tr>
<tr>
<td>pointed</td>
<td>-mku/-muk</td>
<td>-kisa</td>
<td>-kig</td>
<td>-kigsa</td>
</tr>
<tr>
<td>linear; numeral classifier: long and extended</td>
<td>-tra/-tahr/-bu</td>
<td>-buka</td>
<td>-buk</td>
<td>-buhku(mna)</td>
</tr>
<tr>
<td>road, river</td>
<td>-tra/-tahr/-bu</td>
<td>-buka</td>
<td>-buk</td>
<td>-vigku</td>
</tr>
<tr>
<td>the inside part of; numeral classifier: extended with boundaries</td>
<td>-iku/-rik</td>
<td>-eku</td>
<td>-ik</td>
<td>-iku</td>
</tr>
<tr>
<td>tree, plant, trunk</td>
<td>-kti/-kat</td>
<td>-kat</td>
<td>-min</td>
<td>-pew</td>
</tr>
<tr>
<td>tree, branchlike</td>
<td>-kti/-kat</td>
<td>-pewa</td>
<td>-peru</td>
<td>-peru</td>
</tr>
<tr>
<td>water</td>
<td>—</td>
<td>-pit</td>
<td>-pit</td>
<td>-hakwa</td>
</tr>
<tr>
<td>Property</td>
<td>GENDER</td>
<td>NUMERAL CL</td>
<td>VERBAL CL (2 sets)</td>
<td>LOCATIVE CL</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>--------</td>
<td>------------</td>
<td>--------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>formal overlap with other noun classification devices</td>
<td>no</td>
<td>partly yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>different number of morphological forms depending on construction type</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>different number of morphological forms depending on classifier</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>irregular forms</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>derivational functions</td>
<td>(limited)</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>bound morphemes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>prefixes, suffixes, infixes</td>
<td>prefixes, suffixes, infixes</td>
<td>suffixes</td>
<td>suffixes</td>
<td>n/a</td>
</tr>
<tr>
<td>every noun “classified”</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>obligatory use</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>co-occurrence with other noun classification devices in one morphological word</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>
8.1.2. Function. No noun classification devices in Palikur, including gender and possessive classifiers, need to co-occur with an overt noun phrase—i.e., they can all be used anaphorically. All of them allow variable classification of nouns depending on which characteristic is in focus. This shows that classifiers are not semantically redundant; they add information to the noun (cf. Denny 1986; Downing 1996:93). Together with gender, they play a major role in tracking participants in Palikur discourse. This is typical of noun classification devices (see Aikhenvald 1994a:428–29).

8.1.3. Usage. Every noun in Palikur is assigned a gender, or a numeral, verbal, or locative classifier. Only some nouns are assigned a possessive classifier. The marking for gender and by numeral and locative classifiers is obligatory, while the use of verbal classifiers depends on whether or not the S/O constituent is completely involved in the action (see section 5.1).

8.1.4. Co-occurrence with other noun classification devices. Gender marking can co-occur with verbal classifiers and with locative classifiers in a single morphological word—compare (34). Gender marking does not co-occur with numeral classifiers. (Note that there is a gender distinction within the set of numeral classifiers; however, it applies only to animate nouns and is not semantically opaque.) There is no special gender marking on possessive classifiers—gender is cross-referenced on the third person prefix to a possessive classifier. The use of several systems of noun classification devices contributes to the complexity of Palikur discourse—note, for example, gender and a locative classifier in one clause in (61), a locative and a numeral classifier in (60), and gender and a numeral classifier in (28).

8.2. The semantics of Palikur noun classification devices. The semantics of numeral, verbal, and locative classifiers shows a significant overlap, while the choice of gender markers and of possessive classifiers is determined by rather different properties. These are summarized in table 10.

Table 10. The Semantics of Palikur Genders and Classifier Systems

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>GENDER</th>
<th>NUMERAL CLASSIFIERS</th>
<th>VERBAL CLASSIFIERS</th>
<th>LOCATIVE CLASSIFIERS</th>
<th>POSSESSIVE CLASSIFIERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>animacy</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>humanness</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>dimensionality</td>
<td>(no)</td>
<td>3 values</td>
<td>4 values</td>
<td>3 values</td>
<td>no</td>
</tr>
<tr>
<td>shape</td>
<td>yes</td>
<td>4 values</td>
<td>6 values</td>
<td>6 values</td>
<td>no</td>
</tr>
<tr>
<td>material</td>
<td>yes</td>
<td>(yes)</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>boundedness</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>material</td>
<td>yes</td>
<td>(yes)</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>function</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>semantic extensions</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>default class</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>
The choice of a classifier is usually semantically based and transparent. Semantic principles are rather more complicated with regard to gender assignment, since many more semantic features are encoded in a smaller number of morphemes (see figure 1). Numeral classifiers of the sortal type show a semantic extension from form or dimensionality to material—e.g., the classifier \(-mku \sim muk\) is used for concave objects and also for objects made of metal. Semantic extensions of this sort are not found in verbal, locative, or possessive classifiers. They are found in gender assignment—we have seen (in section 3.2) how a metal star was assigned feminine gender because of the material it is made of; “natural” stars are masculine. Of the other classifiers, only numeral classifiers have an overt animacy distinction. They also mark the sex of animate nouns. Sortal numeral classifiers categorize nouns in terms of their shape, dimensionality, and boundedness. There are three specific classifiers (‘plants’, ‘hand’ and ‘mouth’). Mensural numeral classifiers categorize nouns in terms of “arrangement” (cf. Allan 1977).

“Dimensionality” has three values for numeral and locative classifiers and four values for verbal classifiers—there are two classifiers for one-dimensional objects. Locative and verbal classifiers make very similar distinctions with regard to form (note that the verbal classifier for objects with sharp edges is used only with stative verbs). Numeral classifiers distinguish fewer forms and on different principles: objects with equal dimensions (round or square) are distinguished from irregular-shaped ones. “Boundedness” is used in numeral and locative classifiers, but in different ways; only locative classifiers have a special term for unbounded substances. The semantic closeness of verbal and locative classifiers goes together with their formal similarity (see table 8). It is difficult, however, to decide which function is the original one.41 The ways in which dimensionality, form, and boundedness are encoded in numeral classifiers are reflected in the “ethnogeometry” of Palikur. There are geometrical terms in the language that correspond to each dimensionality-, form-, and boundedness-based classifier. There are no such terms that correspond to verbal or locative classifiers. The semantic parameters used in most classifier systems include CONSISTENCY (i.e., ‘rigid’ or ‘flexible’). This parameter appears as a secondary feature in numeral classifiers in Palikur. It is the most important one in assigning gender to inanimates based on their physical properties.

The classification of nouns into genders is based on a combination of different semantic features that only partly overlap with features used in numeral, verbal, and locative classifiers. Nouns are divided into genders according to their animacy; animates are further divided into humans and nonhumans. Animate nonhuman nouns are assigned genders by their species, kind, sex, and size, and inanimate ones by consistency, shape, boundedness, and material.

“Function” is encoded exclusively in possessive classifiers. Only possessive classifiers encode a generic-specific (or superordinate-subordinate) relationship. Genders and numeral, verbal and locative classifiers have a class that includes
otherwise unclassifiable nouns and can be considered a default, or residue, class. Possessive classifiers do not have such a category.

8.3. The origins of Palikur classifiers and gender. Classifiers differ in their etymologies. A few numeral and verbal classifiers originated from full nouns used in classifier functions, called "repeaters" (Craig forthcoming). Possessive classifiers are generic nouns (‘pet’, ‘catch’, ‘child’, ‘plant’, and ‘food’). Feminine and masculine gender markers -o and -e originated in Proto-Arawak gender-marked demonstratives, also used as third person pronouns (see Payne 1991:376). Palikur innovated a third gender, the neuter. Neuter gender marker -a could have developed as the result of reanalysis of a nonspecific ‘impersonal’ prefix a- found in some other North Arawak languages, e.g., Bare and Guajiro (Aikhenvald forthcoming a).4

Another aspect of the Palikur classifier systems concerns the grammaticalization of body parts. Different body parts are grammaticalized as different kinds of classifiers. ‘Mouth’ and ‘hand’ become numeral classifiers of both sortal and mensural types, presumably due to the functional use of mouth and hand in measuring operations. ‘Head’ and ‘nose’ are grammaticalized as verbal and locative classifiers, possibly due to their perceptually salient position—this is a case of “polygrammaticalization” (Craig 1991). ‘Bone, marrow’ became a specific locative classifier for roads and rivers.

Since numerous North Arawak languages have systems of numeral and verbal classifiers, these classifiers in Palikur could have been inherited from the protolanguage (Aikhenvald 1996). However, since other northern Amazonian languages also have rich systems of numeral and verbal classifiers, it is not easy in this instance to distinguish the results of areal diffusion from those of genetic inheritance. The emergence of a small set of possessive generic classifiers and of locative classifiers can be explained as the result of areal diffusion. In both cases, the most likely source of areal influence would be the Carib languages with which Palikur has had a long history of contact.

8.4. Summary. Palikur has five systems of noun classification devices: gender, numeral classifiers, two sets of verbal classifiers, locative classifiers, and possessive classifiers. Gender and possessive classifiers are independent and do not interrelate with the other systems in the way that the other systems do among themselves.

Different noun classification devices have different functions and different scope.43 A three-gender system is used with pronouns and in head-modifier agreement with a demonstrative as a modifier. A two-gender system is used to mark agreement with subjects (A/S) on verbs and in head-modifier agreement with stative verbs in modifier function. Numeral classifiers are used in noun phrases containing numerals. Their function is enumeration and quantification. Possessive classifiers are used in possessive noun phrases; locative classifiers
are used in locative noun phrases. Verbal classifiers have the predicate (or the clause) as their scope and appear on verbs in reference to the O/S constituent.

Noun classification devices differ in their semantics. Only verbal classifiers have a pragmatic effect—they correlate with topicality and contrastiveness and indicate the completeness of the involvement of the O/S constituent.

Classifiers also differ in their origin and morphological status. These correlations, summarized in table 11, show semantic and functional differences between noun classification devices in Palikur.

How unusual is Palikur in having so many different sets of morphemes in different functions? Having more than one noun classification device is not uncommon among the languages of the world (see note 17). Quite a few have two. For instance, languages often have noun classes (genders) and numeral classifiers, e.g., Dravidian and Indic. Noun classes and noun classifiers coexist in some Australian languages, e.g., Wardaman and Ngan’gityemerri (Sands 1995). Noun classes and verbal classifiers coexist in the Australian languages Gunbarlang and Mayali (Evans 1996). Numerical and relational classifiers co-occur in a number of Oceanic languages, such as Mokilese, Ponapean, and Truquese.

Few languages have three or more systems of noun classification. Dâw, a Makú language (Martins 1994), has noun classifiers, locative classifiers, and classifiers in possessive constructions.44 Baniwa (North Arawak) has two genders, relational classifiers, a large set of noun classes, and another set of morphemes used as numeral and verbal classifiers that largely overlaps with the noun class markers. This is quite common in Arawak languages (see Aikhenvald 1996; Shephard 1997).

In all of these cases, classifiers provide cross-categorization of nouns. Classifiers serve to provide additional information about a noun’s referent and also to organize entities into classes or groups. The taxonomies expressed by classifier systems not only differ from those encoded by nouns; they also differ from one another. As Benton put it, in his analysis of two classifier types in Truquese, an Austronesian language, “the classifiers . . . thus at the same time provide a means for ordering the universe, and a method for structuring concepts” (1968: 143). This can be illustrated with the following example. Along with a rich system of shape-based classifiers, Palikur has comparatively few stative verbs representing such semantic groups as “dimension.” The same lexical item, *pugum-/pugub-/pugu-* can be translated as ‘thick’, ‘broad’, ‘large’, and ‘big’, and further semantic distinctions are made with classifiers.

We have seen that Palikur is an instance of a multiple classifier system that displays extreme precision in combining different sorts of reference to physical and other inherent properties of entities encoded in distinct classifiers.
<table>
<thead>
<tr>
<th>CLASSIFIER</th>
<th>FUNCTION</th>
<th>SCOPE</th>
<th>SEMANTICS</th>
<th>PRAGMATIC EFFECT</th>
<th>ORIGIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>gender</td>
<td>head-modifier agreement in NP</td>
<td>NP (three genders with pronouns and demonstratives, two genders with stative verbs as modifiers)</td>
<td>animacy, physical properties</td>
<td>——</td>
<td>deictic or third person enclitic: Proto-Arawak</td>
</tr>
<tr>
<td></td>
<td>A/S agreement in clause</td>
<td>clause (two genders)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>numeral classifiers</td>
<td>quantification, enumeration</td>
<td>NP</td>
<td>animacy, physical properties, nature</td>
<td>——</td>
<td>some come from nouns, e.g., body parts</td>
</tr>
<tr>
<td>verbal classifiers with transitive and stative verbs</td>
<td>O/S agreement</td>
<td>clause</td>
<td>physical properties, parts of objects</td>
<td>complete involvement or topicality or contrast of O/S</td>
<td>some come from nouns, e.g., body parts</td>
</tr>
<tr>
<td>locative classifiers</td>
<td>location</td>
<td>NP</td>
<td>physical properties, “typical” locations</td>
<td>——</td>
<td>some come from nouns, e.g., body parts</td>
</tr>
<tr>
<td>possessive classifiers</td>
<td>possession</td>
<td>NP</td>
<td>function, way of handling</td>
<td>——</td>
<td>generic nouns</td>
</tr>
</tbody>
</table>
Appendix 1

Typological Characteristics of Palikur

As is typical for a North Arawak language, Palikur is polysynthetic, predominantly suffixing, with a few prefixes. It is agglutinating with a strong fusional tendency and complicated morphophonological rules. It is basically nominative-accusative. Grammatical relations are expressed through pronominal cross-referencing. Cross-referencing suffixes usually mark the pronominal O of a transitive verb. With some verbal aspects (inchoative and ablative) the O is marked with a prefix instead of a suffix. There is also a set of cross-referencing prefixes that are used to mark the possessor and the argument of a postposition. Constituent order tends to be: AVO, SV; possessor-possessed; adjective-head noun. However, there is considerable freedom in order. The same item can be used as a preposition and as a postposition depending on its discourse status (see appendix 2).

Unlike the vast majority of North Arawak languages, Palikur does not have the split ergative pattern of split-S type in marking grammatical relations with cross-referencing affixes (see Dixon 1994). In other Arawak languages, split ergative marking is based on division of intransitive verbs into active (S\textsubscript{a}) and stative (S\textsubscript{o}) types. It goes along the following lines:

\begin{align*}
A = S\textsubscript{a}: & \text{ marked with cross-referencing prefixes} \\
O = S\textsubscript{o}: & \text{ marked with cross-referencing suffixes or enclitics (see Aikhenvald 1996)}
\end{align*}

In Palikur, cross-referencing suffixes are used to mark the pronominal O of a transitive verb, as in (69).

(69) \textit{ig} umeh\text{-p\text{-ig}}

\begin{align*}
3m & \text{kill-COMPL-3m} \\
\text{‘He killed him.’}
\end{align*}

A full noun phrase cannot co-occur with a pronominal suffix unless it is the focus of the utterance. In (70), O is expressed with a full noun phrase, and there are no cross-referencing suffixes on the verb.

(70) \textit{ig} umeh\text{e} kaybune

\begin{align*}
3m & \text{kill-COMPL snake} \\
\text{‘He killed a snake.’}
\end{align*}

In (71), the noun phrase \textit{yis} ‘you’ in O function is the focus, and so it co-occurs with a cross-referencing suffix. Similar techniques are found in other Arawak languages, e.g., in Warekena (Aikhenvald forthcoming c).

(71) \textit{nah kabeywot\text{-ep\text{-yi}} yis}

\begin{align*}
1SG & \text{conciliate-COMPL-2PLO 2PL} \\
\text{‘I will conciliate you (and nobody else).’}
\end{align*}

There is only one instance where the O suffixes are used to mark S in Palikur. When interrogatives are used in the predicate slot, the pronominal S is cross-referenced with the suffixes. This is shown in (72).

(72) pariye\text{-ki\text{-ap}}

\begin{align*}
\text{who/what-EMPH-2SG.S=O} \\
\text{‘Just who are you?’}
\end{align*}
This is probably the only trace of the Proto-Arawak split-ergativity retained in Palikur. Curiously, young people tend to employ independent personal pronouns (normally used for marking all subjects) in these constructions, as shown in (73).

(73) pariye-ki pis
    who/what-EMPH 2PL
    'Just who are you?'

Appendix 2

Cross-Referencing and Adpositions in Palikur

Cross-referencing affixes and independent pronouns are given in table 2 (section 3.3.1). Number distinctions in third person are marked on independent pronouns only when they have an animate referent: ig-kis ‘they masculine’, eg-kis ‘they feminine’. Exclusive and inclusive suffixes are used with first person plural. There are three neuter cross-referencing markers: a- ‘nonintegral’, ga- ‘integral’, and ni- ‘definite’. Third person neuter ‘nonintegral’ a- is, by far, the most widely used, and it can be considered the unmarked one—see (10) in section 3.3.1 (note that the glosses are simplified). The ‘definite’ neuter cross-referencing prefix ni- is used when the head noun of the adposition or the subject is omitted, but has been mentioned in the previous sentence. The difference between a- and ni- is illustrated in (74) and (75). The occurrences of these two prefixes with the adposition –pit ‘on.IRREGULAR’ are in boldface.

(74) puwikne manuk akiw a-pit-it kewghri
    animal cross again 3n.NON.INT-on.IRREGULAR-DIR island
    'The animals cross over again to the islands (from the mainland).'

(75) inakni gi-w-n ka-waditnevnen-ma nah kamax-wa
    that:n 3m-word-POSS NEG-worthless-NEG 1SG lean-REFL
    ni-pit-it
    3n.DEF-on.IRREGULAR-DIR
    'That word of his is not worthless. I trust it.' (lit., 'I lean myself on it')

Neuter a- can also be used when the head noun is omitted. Then, the adposition has a more generic reference, e.g., ni-hakwe-t-e (3nDEF-in.WATER-DIR-COMPL) ‘into the water (previously mentioned)’, versus a-hakwe-t-e (3nNON.INT-in.WATER-DIR-COMPL) ‘into water, into liquid’. Examples (76)–(81), presented in pairs, illustrate the difference in meaning between neuter ‘integral’ ga- and ‘non-integral’ a-. This difference correlates with alienable versus inalienable possession, and with the part whole relationship.

(76) payt ga-lapota
    house 3n.INTEG-door
    'the door of a house' (as part of a house)

(77) payt a-lapota
    house 3n.NON.INT-door
    'the door of a house' (lying on the ground and not necessarily attached to the house)
In (78), the cover of the book is considered to be its integral part. In (79), in contrast, it is just a dustjacket.

(78) *kagta ga-mar-bo*
    book 3n.INT-skin-FLAT
    ‘a book’s cover’ (part of the book)

(79) *kagta a-mar-bo*
    book 3n.NON.INT-skin-FLAT
    ‘an empty book’s cover, a dustjacket’

In (80), *tawni* ‘branch’ is considered to be a part of a tree, and in (81), it is just firewood.

(80) *ah ga-tawni*
    tree 3n.INT-branch
    ‘tree branch’ (part of a tree)

(81) *ah a-tawni*
    tree 3n.NON.INT-branch
    ‘tree branch’ (used for firewood)

Etymologically, prefix *a-* in Palikur may be connected with *a-* used for A/S and possessors in a number of other northern Arawakan languages, e.g., Guajiro and Añun *a-‘nonreferential A/S’; Bare *a- (Aikhenvald 1995a, 1995b) ‘focused A/S’; and *a- as a prefix on a main verb in an auxiliary construction in Lokono and Island Carib (Peter van Baarle p.c. 1997).

The use of adpositions as prepositions or as postpositions in Palikur depends on the discourse status of the head noun. Cross-referencing is obligatory with prepositions, whether the head noun is present or absent, but when the same item is used as a postposition, cross-referencing is omitted. This is reminiscent of the situation in other North Arawak languages, such as Baniwa of Igana, Bare, and Warekena (see Aikhenvald 1995b). Postpositions are used when the head noun is not individualized and the adpositional phrase refers to a habitual activity. In (82), ‘in the field’ implies that the ‘field’ is not individualized. The sentence describes the habitual activity of a woman. Note that *was-madka* is pronounced as a single phonological word. Prepositions are used if the head noun is individualized. Person, number, and gender of the head noun are obligatorily cross-referenced on a preposition. This is illustrated in (83) where *was* ‘field’ has nothing to do with any habitual activities associated with a field. The example comes from a story of a Palikur man who was part of a pacification team carefully crossing a field belonging to the Arara Indians while trying to make contact with them.

(82) *eg ka-annipwi-yo was-madka*
    3f ATT-work-DURF field-in.FLAT
    ‘She worked in the field.’
(83) wis-uh pes amew-e ay-ta-re a-madka inin
1PL-EXCL come.out sneak.up-COMPL there-DIR-ANA 3nNON.INT-in.FLAT this:n

            gi-was-ra-kis
3m-field-POSS-PL

‘We went out stealthily there across their (the Araras’) field.’

Notes

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Abbreviations. The following abbreviations are used: 1 = first person; 2 = second person; 3 = third person; A = the subject of a transitive verb; ANA = anaphoric; ART = article; ATT = attributive; AUG = augmentative; BENE = benefactive; CAUS = causative; CL = classifier; COMPAR = comparative; COMPL = completive; CON = contrastive; CONT = continuative; DEF = definite; DIM = diminutive; DIR = directional; DIST = distal; DUR = durative; ELAT = elative; EMPH = emphatic; EP = epenthetic; EXCL = exclusive; f = feminine; IMP = imperative; INDIF = indefinite possessor; INT = intensive; INTEG = integral; INTER = interrogative; LOC = locative; m = masculine; n = neuter; N = noun; NEG = negation; nf = nonfeminine; NON.INT = nonintegral; NON.Poss = nonpossessed form; NUM.CL = numeral classifier; O = the object of a transitive verb; PASS = passive; PAUS = pausal; PERT = pertaining; PL = plural; POSS = possessive; POSS.CL = possessive classifier; PROB = probable; REC = reciprocal; REFL = reflexive; REP = repetitive; S = the subject of an intransitive verb; SG = singular; SUB = subordinate; UNR = unreal; V.CL = verbal classifier; VRBZR = verbalizer.

1. Palikur is a North Arawak language spoken by over a thousand people in the state of Amapá in northern Brazil and in French Guiana.

2. These types also correlate with the morphological status of each morpheme, their semantics, origin, grammaticalization pattern, and whatever other grammatical and discourse categories they interact with. Issues concerning further rationale for this topology of classifiers are discussed in Aikhenvald (forthcoming b).

3. Classifier constructions of this type are reminiscent of the generic-specific relationship between a noun classifier and a noun, as exemplified by Yidiny above.


5. The existence of this type was suggested by Allan (1977) and later questioned by Croft (1994), who did not have access to the South American language data discussed here.

6. Some important typological characteristics of Palikur are summarized in appendix 1. An early and tentative statement of the basic grammar of Palikur can be found in Green and Green (1972).

7. Another possibility is for two agreement systems to be used at the same time with the same class of grammatical units. There are usually different agreement types, or at least different rules of agreement, as in Paumari, an Arawá language from Brazil; see the brief discussion in Aikhenvald (1994a:417), and also Aikhenvald (1994b). Few languages allow “double” marking of genders (or noun classes) and classifiers in the same
morphosyntactic environment. A few examples of this are discussed in Aikhenvald (1994a:417–18).

8. There are only a few agent nominalizations that distinguish masculine and feminine gender, e.g., amepi-yo ‘thief (woman)’, amepi-ye ‘thief (man)’. There are also elements of men’s and women’s speech, e.g., ahadjie ‘(men’s response) I am going’, ye ‘(women’s response) I am going’ (also characterized by higher pitch). These phenomena are excluded from our discussion here.

9. There is one word that has double gender in the sense of Corbett (1991:67). Bakimni ‘child’ is usually assigned to feminine gender when the sex is not known. If the referent is specific and the sex is known, then it triggers feminine or masculine agreement, e.g., ig bakimni gi-mana (this:m child 3SG.m-food) ‘this (male) child’s food’.

10. For instance, a married couple is always referred to as eg-kis ‘she-plural’.

11. There may be a historical explanation for this phonological principle of gender assignment. Proto-Arawak had a feminine (nonmasculine) affix *-u/o that is still preserved in the form of Palikur gender-sensitive suffixes (table 3) and in some lexical items, e.g., tino ‘woman’ (cf. Proto-Arawak *čina-ru ‘woman’ [Payne 1991:426]).

12. Semantics, however, overrides phonology. The form nauiy ‘boat’ (from Portuguese masculine navio) might be expected to be neuter, but is, in fact, feminine—as a metal object with constant shape.

13. A fifteen-year-old girl, monolingual in Palikur, spontaneously assigned neuter gender to feminine suyeg ‘(black) metal pan’ and to masculine warapyu ‘little star’; she then corrected herself. For an example from a text, see (10) in section 3.3.1.

14. Examples are given in an underlying form, to avoid the complications of phonological changes.

15. Feminine and nonfeminine genders are distinguished in a nominalization of the verb ‘die’: gi-mire-mni ‘his/its death’, but gu-miro-mni ‘her death’. This nominalization contains a gender-sensitive nominalizer of Proto-Arawak origin: -re (nonfeminine), -ro (feminine).

16. In Palikur, the gender-sensitive suffixes are not used in negative clauses. This means that there are fewer aspect choices in negative clauses than in positive ones. Consider the following examples. In (i), gender agreement is marked on the durative suffix, which is typically used with stative verbs. In (ii), it is suppressed.

(i) tino barew-yo
    woman be pretty/clean-DURF
    ‘The woman is pretty.’

(ii) tino ka-barew
    woman NEG-be pretty/clean
    ‘The woman is not pretty.’

However, gender agreement is obligatory in negative clauses with emphatic contrastive negation (marked by both the negative prefix ka- and a negative suffix -ma), as illustrated in (iii).

(iii) tino ka-barew-yo-ma
    woman NEG-be pretty/clean-DURF-NEG
    ‘The woman is not pretty at all.’

There are a few additional limitations on gender agreement. These are linked to the choice of the aspectual form of a verb. There are a few stative verbs that are idiosyncratic
in that they do not combine with either durative or continuative. Such are pohe 'black' and kisepehe 'cold, tasteless'. Other stative verbs that refer to colors or physical properties do not have this idiosyncrasy. Sometimes the nonoccurrence of a stative verb with a gender-sensitive suffix may be due to phonological restrictions. For instance, hiwiye 'shiny' does not take durative -ye/-yo, probably because ye is a part of its stem (masc. huwi-ye, fem. huwi-yo).

17. All typological statements, unless indicated otherwise, are based on the analysis of systems of classifiers and genders in over 300 languages presented in Aikhenvald (forthcoming b). The data on Arawak systems are summarized in Aikhenvald (1996).

18. Kaingang is a Jê language from southern Brazil; Rikbaktea is a Macro-Jê language from central Brazil; Kakua is a Makú language from Colombia.

19. The use of one form for masculine and neuter gender agreement with gender-sensitive verbal suffixes reminds us of a phenomenon known as "concordial super-classing" in Australian linguistics (Sands 1995:264–65), where fewer agreement forms are used with some modifiers, such as demonstratives. Unlike Palikur, however, super-classing in Australian languages often has a discourse function: fewer agreement forms are used when the head noun has a general reference or is backgrounded.


21. The choice of a sortal classifier depends on inherent or temporary properties of the referent of the noun. Mensural classifiers correspond to measure terms in non-classifier languages and describe the ways referents can be quantified. Distinguishing sortal and mensural classifiers and establishing a distinction between quantifiers and mensural classifiers is a recurrent problem in analyzing classifier languages (see Adams 1989). Mensural classifiers in Palikur are morphologically distinct from quantifiers, which are a separate closed class—e.g., yuma 'none', aynesê 'few', kaayhsima 'many', and madiîte 'all' (Green and Green 1972:64). Quantifiers do not show any agreement with the head noun.

22. Possibly, the two are only homonyms (see Green 1996). The form -t is also a suffix that appears on numerous abstract nouns, so one cannot exclude the possibility that the classifier -t is a repeater.

23. Unlike the majority of other Arawak languages, Palikur has a decimal number system. Numbers eight and nine are derivations of seven ('seven plus one' and 'seven plus two'); all of the rest can be considered separate stems. For a more detailed analysis of numeral classifiers, and of the counting system in Palikur, see Green (1996).

24. Palikur has a complicated verbal structure, with one prefix position and eight suffix positions. The prefix position may contain either an object prefix or a negation marker. The suffix positions are as follows: (1) verbal classifier or incorporated body part; (2) reflexive or reciprocal marker; (3) desiderative marker; (4) "range of action" (wide range, limited range, etc.) markers; (5) directional or number of subject markers (action while subject is moving, action by individual subjects, action by dual subjects, etc.); (6) aspect (completive, inceptive, etc.) markers; (7) object markers; and (8) intentional, irrealis, superlative, or emphatic markers. For a complete description, see Green and Green (1972).

25. Palikur is one of the few Amazonian languages with a passive derivation where an underlying agent can be expressed.

26. Contrary to Croft (1994), this is not uncommon in verbal classifier systems.

27. Four possible additional classifiers do not appear in figure 4. They occur only with a single stative verb, pugum-/pugub-/pugu- 'large, thick, big', and are: -w- 'vertical object' (e.g., manioc squeezer, arrow, or pencil), -r- 'extended broad object' (e.g., field, plate, or road), -rawk- 'fire, wave', and -tw- 'cluster of small things' (e.g., beads, bananas, or açai fruit). Examples of these in use are given in (i)–(iv).
(i) *yuwivra pugum-w-ad*
   bamboo  large/thick-CL:VERTICAL-AUG
   'The bamboo is thick.'

(ii) *was pugub-r-ad*
    field  large/thick-CL:EXTENDED.BROAD-AUG
    'The field is broad.'

(iii) *tiket pugub-rawk-ad*
     fire    large/thick-CL:FIRE, WAVE-AUG
     'The fire is big/broad.'

(iv) *pilatno pugu-tw-ad*
     banana  large/thick-CL:CLUSTER-AUG
     'The stalk of bananas is big.'

28. The classifier -pit 'irregular or round shape' is, by far, the most frequently used. It is also used to refer to objects of different shapes and may be considered functionally unmarked.

29. Compare -min on the transitive verb *bak* 'split' in (i) with -kat on the stative verb *pugum* 'large, thick' in (ii).

(i) *wis-uh bak-mina-e-gu*
   1pl-EXCL split-V.CL:VERTICAL-COMPL-3f.OBJ
   'We split it (a tree, or a stick).'

(ii) *pilatno pugum-akat-yo*
    banana  large/thick-V.CL:TRUNK-DURf
    'The/a banana tree is thick.'

30. Not all nominal modifiers belonging to the semantic group of "dimension" are stative verbs; some of them are nouns. Such is the case with *nops-ad* (size-AUG) 'big', *nops-esa* (size-DIM) 'small', and *mih-ad* (deepness-AUG) 'deep'. Being nouns, these modifiers do not take classifiers.

31. The only exception might appear to be *barew* 'good, pretty', which could be considered as belonging to the value type. However, its other meaning is 'clean', and the meaning 'good, pretty' can be considered as a semantic extension of 'clean'. These meanings of *barew* are illustrated in (12)–(14) and (34), and *barew* is used with the meaning 'clean' in (35). The stative verb *kabay* 'good', which is only used for value judgments, does not take classifiers.

32. For instance, in Yanomami (Ramirez 1994), obligatorily possessed body parts are always incorporated into the verb.

33. Example (48), with an incorporated body part, and (i) below, with a verbal classifier, illustrate the same contrast.

(i) *gi-tew barew-pit*
   3m-head  clean-V.CL:IRREG
   'His head is clean (well-washed, or clean-shaven)'

34. The distinction between a clause and a noun phrase is marked by constituent
order. Compare example (57), which is a noun phrase, with (i) below, which is a clause.

(i)  umuh barew-muh
    canoe clean-V.CL:SIDE

    'The canoe is clean-sided.'

Note that, despite a superficial similarity, the word side in the English translation "clean-sided" can not be considered either as incorporation or as an instance of a classifier (see Mithun 1984).

35. See appendix 2 on how the choice of a postposition or a preposition depends on the discourse function of the head noun.

36. Since they combine the functions of both classifiers and adpositions, they could be called "classificatory adpositions," following the analogy of "classificatory verbs" in North American Indian languages, such as in Athabaskan languages or in Cherokee.

37. The classifier –bet ‘unbounded’ is also used to refer objects that consist of multiple parts, e.g., 'caviar' (which consists of many eggs), 'cotton' (with its many fibers), or 'clothing' (with its many pieces).

38. Example (63) illustrates this. A rattle is usually classified as 'irregular shaped'. In this case, the star was glued to its flat side, and this is why the locative classifier –madka ‘on.FRAT’ is used.

39. Palikur also has possessive markers on alienably possessed nouns that go back to Proto-Arawak relational classifiers. However, it is not clear whether they have any classifier function in Palikur, as they do in other Arawak languages, e.g., Baniwa of Ícondition (Aikhenvald 1994a:410).

40. Unlike other multiple classifier systems, e.g., Yagua (Payne 1990), or Tariana (Aikhenvald 1994a), in which every classifier can be used as a derivational affix.

41. Since there are reasons to believe that Palikur locative classifiers are the result of areal diffusion from Carib languages (see section 8.3), one might assume that verbal classifiers are older.

42. A similar scenario for the genesis of noun classes in the Iroquoian languages was suggested by Chafe (1977). In Pre–Proto–Northern Iroquoian, cross-referencing prefixes developed a human-nonhuman opposition—for agents, the erstwhile nonspecific prefixes were reinterpreted as 'human' (Chafe 1977:505). A later addition of a masculine singular form triggered the split of the 'human' category into masculine and feminine (Chafe 1977:506).

43. The functions include those discussed by Croft (1994): determination, enumeration, possession (relevant for possessive classifiers), and spatial predication. Since at least some of them are quite vague, we did not use them.

44. Among the Guaicuruan languages of Argentina, Toba (Klein 1978, 1979) has deictic classifiers, noun classifiers, and classifiers in possessive constructions. Possibly, Pilaga (Vidal 1997) has a similar system.

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