Physical properties in a gender system: a study of Manambu

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Animacy and sex are usually considered basic semantic parameters for noun classification devices such as genders (or noun classes), numeral classifiers, verbal classifiers and noun classifiers. In some languages there are correlations between gender assignment to inanimates and their physical properties, e.g. shape, size, directionality (horizontal or vertical), and consistency (flexible or rigid). The most notable examples of a system of gender assignment based on physical properties come from the languages spoke in the East Sepik Province of Papua New Guinea, e.g. Alamblak, and Manambu (Ndu family). I shall present a brief overview of gender marking in Manambu in §1.[1] In §2 I consider derivational functions of genders. In §3 I look at the principles of gender assignment and how gender correlates with physical properties of inanimates and of animates. The way gender is used in metaphors illustrates the possibilities of extension of the prototypical meanings. Then, in §4, I discuss the Manambu system from a typological perspective.

1. Gender system in Manambu

First, I consider the realisation of gender and further problems associated with it (§1.1). Markedness in gender systems is discussed in §1.2.

Manambu is strictly verb-final, with a dependent marking tendency (case-marking on nouns). The open word classes are nouns, adjectives and verbs. Typically for a Papuan language, Manambu distinguishes final and non-final (medial) verb forms. Every final verb has two cross-referencing positions: the first for the subject[2], and the second for any

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[1] Manambu is spoken by about 2000 people in four villages in the East Sepik. This paper is based on work with Pauline Laki (from the village of Avatip) and her husband James Laki (from the village of Malu). I am grateful to both of them, and to Bob Dixon, Lyle Campbell and to two anonymous referees for their useful comments. I am also thankful to Cindi Farr, Arjen Lock and Risto Sarssa for their ideas about shape based genders in Papuan languages. Abbreviations are: COM - comitative; DEM - demonstartive; DESID - desiderative; FEM - feminine; LIG - ligature vowel; LOC - locative; MASC - masculine; pl - plural; POSS - possessive; PRES - presentative; REC.PAST - recent past, REM.PAST - remote past; sg - singular.

[2] The subject of transitive verbs, A, and the subject of intransitive verbs are always treated in the same way.

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other argument provided it is topical (this poses the question of how transitivity classes are to be defined).

1.1 Realisation of genders

Manambu has two genders, masculine and feminine. They are usually not marked on the noun itself (with the exception of one case discussed in §2), and are realised as agreement markers on agreeing constituents.[3] There are several sets of gender markers — see Table 1.

Table 1. Gender markers in Manambu

Masculine	Feminine	Context
-d	*-l*	*Verbs: predicate-argument agreement; derivation (limited)*
(-d)	*(-l)*	*Deictic copula ka 'here it is'*
-d	*-Ø*	*Noun phrases: head-modifier; possessor-possessed*
-da	*-ka*	*Presentative ha-*

Second person pronouns and cross-referencing suffixes have different forms for the two genders—see Tables 2 and 3 (below).

Gender agreement is realised in the following morphosyntactic contexts.

- Head-modifier agreement marked on singular demonstratives and adjectives in noun phrases, e.g. *nəma-də du* (big-MASC.SG man) 'big man', *nəmaØ tak*^{w} (big-FEM.SG woman) 'big woman'; *kə-də ñan* 'this child' (boy), *kə ñan* 'girl'.

- In possessive NPs, gender agreement with the possessed noun is marked on the pronominal possessor. Gender agreement is used (a) to disambiguate the reference of a hybrid noun (i.e. a noun which can refer to a male or a female being, e.g. 'child', 'baby'), e.g. *də-kə-də ñan* (he-POSS-MASC.SG child) 'his son', *də-kəø ñan* (he-POSS-FEM.SG child) 'his daughter'; (b) if there is a pronominal possessor, as in (1) (below), or (c) the possessor is omitted, as in (2) (below) (and so the possessive construction can be considered headless)[4].

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[3] 'Languages in which the gender of a noun is evident from its form are often described as having "overt" gender; those where gender is not shown by the form of the noun have "covert" gender' (Corbett 1991: 62). Thus, gender in Manambu can be considered covert.

[4] Constituent order can be changed, as in (i):

(i) *kə-də* *sawə-yuwi* *a-d* *də-kə-də*
DEM-MASC crane-feather is-MASC 3sg.masc-POSS-MASC
k^{w}*alg*^{w}*ə* *jap* *ma:*
clan.name possession NEG

(1) *kə-də* *val* *də-kə-də*
this-MASC canoe(masc) 3sg.MASC-POSS-MASC
ñan *a-d*
child is-3sg.MASC
'This canoe was his (crocodile's) child'

(2) *də-kəØ* *ma:j* *ha-ka*
he-POSS-FEM story (fem) PRESENTATIVE-FEM
'This is its (river's: masc) story'

In (1) above, the demonstrative modifier and the demonstrative copula both agree with 'canoe'; agreement with the possessor (crocodile: masculine) and with the possessed noun (canoe, also masculine) appears on the possessive pronoun. In (2) the copula agrees with the noun 'story' which is feminine; and the possessive pronoun shows agreement both with possessor and with possessed.

Gender agreement is also present if the possessor is topicalized and undergoes left-dislocation, as in (3).

(3) *alak*^{w} *tama* *val-a-m* *a-d*
out.there forefront canoe-LIG[5]-LOC is-3sg.MASC
mu *də-kə-də* *jəb*(masc) *a-*
crocodile 3sg.MASC-POSS-MASC design is- d3sg.MASC
'On the forefront of the canoe it was, the crocodile, his 'design' (picture) was there'.

In (4) possessive pronoun *bər-a-kə* agrees with the possessor (third person dual; gender distinctions are neutralized in all non-singular numbers) and with the possessed feminine noun ('story').

(4) *sababaw-a-wa* *g*^{w}*as* *bər-a-kə* *ma:j* *ha-ka*
lizard-LIG-COM turtle 3du-LIG-POSS:F story PRES-FEM
k^{w}*asə-na*
end-REC.P+FEM
'The story of a lizard with a turtle is finished here'

Gender is not marked on a non-pronominal possessor, e.g. *du-a maj* (man-LIG story) 'man's story', *tak -ə maj* (woman-LIG story) 'woman's story'.

Second and third person singular pronouns distinguish two genders; the gender

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'The crane feathers do not belong to this clan'

5 Ligature vowel can be e or a; see Aikhenvald in prep.

distinction is not present in dual and in plural (see Table 2). The two genders are also distinguished in singular forms of cross-referencing suffixes in the indicative mood (see Table 3). In non-indicative moods (imperative, permissive) gender distinctions are marked in 3rd person singular only.[6]

Table 2. Personal pronouns[7]

	sg	du	pl
I	*wən*	*ana*	*ñan*
2 MASC	*mən*	*bər*	*gwər*
2 FEM	*nən*		
3 MASC	*də*	*bər*	*da*
3 FEM	*lə*		

Table 3. Cross-referencing suffixes in the indicative mood

	Set I			Set II		
	sg	du		sg	du	pl
1 MASC	*-də-wun*	*-bəran*	*-dəyan*	*-tuwa*	*-ta*	*-bana*
1 FEM	*-wun*					
2 MASC	*-də-mən*	*-bərbər*	*-dəgur*	*-məna*	*-bəra*	*-gwura*
2 FEM	*-ñən*			*-nəna*		
3 MASC	*-(a)d*	*-bər*	*-di*	*-la*		*-da*
3 FEM	*-Ø* past *-al*			*-da*		

(5) illustrates the first person feminine cross-referencing.

(5) *wən* *wulwi* *ñawi* *g^{w}alg^{w}* *kə-l-wun*
I (fem) Wulwi ñawi clan stay-FEM-1sg
'I (woman) belong to the clan Wulwi Ñawi'

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6 The choice of set I or set II suffixes depends on tense-aspect, and on discourse prominence of subject and object; Aikhenvald in prep. for further discussion.

7 Note similarities between full personal pronouns and cross-referencing suffixes of the set I.

With second person (set 1), *-d-* 'masculine' and *-l-* 'feminine' occur with second person pronominal cross-referencing markers, as shown in (6) below. This creates a very unusual situation of double gender marking. (This example comes from a song about a foiled marriage.)

(6) *gra-tua-də-mən*
cry-1sg-MASC-2sg.MASC
'I (a woman) am crying about you (masc)'.

1.2. Markedness in gender systems.

There are two main types of markedness—formal and functional. A term in a system is formally unmarked if it has zero realisation or a zero allomorph. If all of the terms in a system except one are used only in specified circumstances and the remaining term is used in all other circumstances, then this term is said to be functionally unmarked (cf Dixon 1994: 56-57; Aikhenvald and Dixon forthcoming).

Feminine is formally unmarked in Manambu in attributive noun phrases (see Table 1). It can also be considered functionally unmarked. Change in (covert) gender (see Note 3) of most inanimate nouns signals change in shape, and masculine agreement on a modifier signals salient shape, e.g. *nəma-də wi* (big-MASC house) 'a big house' (which is extraordinarily long, or high, or both); *nəma-Ø wi* (big-FEM house) 'a big house' (not necessarily long, or high). Thus, feminine gender is associated with an 'unmarked' shape for houses (which is neither too large, nor too long).

On verbs, both genders are equally marked. Masculine gender can be considered functionally unmarked for two reasons:

First, if the sex of a speaker is not in focus, masculine gender first person forms are often used; e.g. *wən yi-na-də-wun* (I come-REC.PAST-MASC-1sg) 'I have just come' can be used with reference to a male or to a female speaker; while *wən yi-na-lə-wun* (I come-REC.PAST-FEM-1sg) 'I have just come' can be only used with reference to a female speaker (to emphasize speaker's identity).

Second, indefinites and interrogatives require masculine agreement, as shown in (7).

(7) *ag^{w}a-jap a-d*
what-thing is-3sg.MASC
'What is this?'

The use of the feminine agreement form of the copula (*a-l*) would imply that the speaker already has some idea about the shape, or the sex of the referent.

There are markedness relations of a different kind in the deictic copula *ka* 'here (it is)'. If a referent is introduced for the first time, Ø-marking is used because gender is not

specified; masculine (*ka-d*) or feminine (*ka-l*) forms are used if the shape or sex of the referent is in focus.

Thus, there are different markedness relations between three kinds of gender marking.

2. Gender marking on the noun

Natural gender can be marked on the noun, to disambiguate hybrid nouns (i.e. nouns which can denote either male or female: see Corbett 1991: 183). Lexemes *tak*^{w} 'woman' and *du* 'man' are used with a few kinship nouns and a few other nouns with a human referent to disambiguate hybrid nouns, e.g. *yanan* 'grandchild', *yanan- tak*^{w} 'granddaughter', *yanan-du* 'grandson'. They are also used with animate nouns which are assigned a fixed gender because of their permanent shape (see §3: C1), e.g. *guas* 'turtle', *du-a guas* 'male turtle', *tak*^{w}*-ə guas* ; female turtle'.[8]

3. Gender assignment

Gender assignment goes along the following lines.

A. Gender assignment to humans is based on their sex, e.g. *du* 'man', *asay* 'father', *ma:m* 'older brother' are always masculine, and *amay* 'mother', *tak*^{w} 'woman', *ñap* 'mother's older sister' are always feminine.

B. Gender assignment to animates is based on their size. Large animals belong to the masculine gender, and smaller animals belong to feminine gender. A big dog (*as*), or a big pig (*ba:l*) will be masculine, and a small one would be feminine. Names for young animals are feminine (unless they are unusually big–see H).

C. Gender assignment to inanimates is based on their size and shape. Long and/or large objects are treated as masculine, and small and/or round ones as feminine. *Val* 'canoe' is masculine if big, and feminine if small. *Vey* 'spear' is masculine due to its inherent long shape and size; it is feminine when it is used to refer to a small spear or a shotgun'. The same principle operates for body parts, e.g. *tab* 'hand, arm' (masculine), 'small finger' (feminine); *kami:* 'a big bone' (masculine), 'small bone' (feminine); *wuliñ* 'big nail' (masculine), 'small nail' (feminine). This is illustrated with (8), from a story about a willy wigtail and a hornbill. [9] The willy wigtail is a small bird, and is feminine, and its big nose is masculine, while a hornbill, a bigger bird, is masculine, but its small nose is feminine.

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[8] This limited gender distinction through compounding from lexical resources is very common cross-linguistically. Historically, it may evolve into a gender agreement system (see Heine 1982).

[9] This story was retold by Pauline Laki, based on Farnsworth (1971: 110).

(8) *ta:y* *marəb^{w}i* *lə* *nəma-də* *ta:m* *ta-l* *rəm*
before willy.wigtail she big-MASC nose stay-3sg.FEM hornbill
də *k^{w}asa* *ta:m* *ta-d*
he small+FEM nose stay-3sg.MASC
'Before, willy wigtail, she had a big nose, hornbill, he had a small nose'.

C1. Some lower animates, body parts and inanimates possess a 'typical' shape and size. For instance, *guas* 'turtle' is always feminine because of its typically round shape; so are *ar* 'lake', *ab* 'head', *ya:l* 'stomach', *k^{w}ati* 'knee', *k^{w}atə tab* 'elbow', and *san* 'money'; *bag^{w}a-k^{w}al* 'necklace' is masculine because it is long. For insects, the use of masculine gender can be associated with their quantity (see F below). For instance, *ka:l* 'dragonfly' is masculine because these insects (considered a great delicacy) usually come in large quantities.

C2. There are some semantic extensions: for instance trees are masculine, and their fruit is feminine independent of the shape, e.g. *mi:* 'tree' and *ma:s* 'betel nut tree' are masculine; and *təkə* 'fruit' and *ma:s* 'betel nut fruit' are feminine.

D. Gender assignment by 'association'

Descent is strictly patrilineal, and so the *g^{w}alug^{w}* 'patrilineal clan' is masculine as also are all the clan names. (Morphologically, *g^{w}al-ug^{w}* is the plural form of *g^{w}al* used for 'father's child (female or male) and father's father').

Masculine gender assignment is associated with cultural importance; *maj* 'story' is masculine if it refers to a traditional story, but feminine if it refers to a casual story or a biography of someone; *bag^{w}* 'performance, dance' is masculine only when it refers to a traditional act.

One culturally important notion, *ja:m* 'a set of hereditary magical and ritual powers', is personified as a named female spirit the role of which is to punish incest and violation of the principles of exogamy (Harrison 1990:32). Each group has a *vei*, its ancestor, literally 'spear'. The connotations of *vei* are masculine and phallic, while *ja:m* is represented as a womb. Together *vei* and *ja:m* 'signify the "male" and "female" aspects of a group's social identity' (Harrison 1990: 33). This goes together with the assignment of masculine and feminine genders to these lexemes.

It is traditionally believed that human bones (*ap*) are formed from father's semen and transmitted agnatically. In contrast, blood (*ñəkə*) derives from mother's womb blood and is transmitted by matrifiliation (Harrison 1990: 33). Consequently, *ap* 'bone' is assigned masculine gender, while *ñəkə* is usually feminine (but see F). The noun *ap* also carries the connotations of centrality and importance. Thus, speakers derive the name of Avatip, considered the most important of the four Manambu villages, from *ap-a*

təp (bone-LIG village) 'the strong, large, central village' (lit. the bone-village) (Harrison 190:33; Pauline Laki p.c.).

E. Gender assignment to nouns denoting natural phenomena

Nouns which refer to natural phenomena are assigned feminine gender if the extent of the phenomenon is not complete, or the completeness is not in focus; otherwise they are assigned masculine gender. For instance, *ga:n* 'night' is feminine, unless it implies complete darkness. *Ga:n a-l* (night is-3sg.FEM) means it is somewhat dark (typically used for 6-7 P.M.); *numa-də ga:n* (big-MASC night) 'big night' means complete darkness, usually around midnight. *Gəl* 'raincloud' is assigned feminine gender if there are few of them, and masculine gender if they cover the whole sky. See (9).

(9) *atəta və-kər gəl a-d*
how see-DESID raincloud is-3sg.MASC
'How can (I) see, rainy clouds are all over the place'.

F. Gender assignment to abstract nouns and to mass nouns

All nouns which refer to time spans, manner and language are feminine[10], e.g. *kudi* 'language', *səkər* 'time'.[11] (10) is an example of how feminine 'time' time gets cross-referenced on the verb. The first cross-referencing marker, *-də-*, refers to the subject ('crocodile'), and the second one (*-l*) to the time.

(10) *nəma-də mu war-də-l*
big-MASC crocodile go.up:REM.PAST-3sg.MASC-3sg.FEM
'This was the time when the crocodile went up'.

Mass and uncountable nouns are often feminine, e.g *səp* 'skin', *dakul* 'lime powder'. However, the use of masculine may imply large quantity, while small quantity is associated with feminine gender, e.g. *ñəkə* 'blood' in *ñəkə a-l* (blood is-3sg.FEM) 'there is a little blood'.

G. Variability in gender assignment depending on the properties of 'possessor'.

In possessive constructions with inalienable possession, the possessor determines the gender agreement of the whole construction, and thus should be considered the head. Obligatorily possessed nouns, such as *sə* 'name', *jəb* 'image, picture', *kʷamak* 'face, image', *kayək* 'reflection in water', do not have an inherent gender; their gender is

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[10] However, *nabi* 'year' is masculine. James Laki suggested that it is masculine because it is 'so long'.

[11] Cf. also *kwa-d'-l* (stay:REM.PAST-3sg.MASC. Subject-3sg.FEM.Manner) 'this is the manner in which it (canoe: MASC) existed'.

always determined by the gender of the possessor, e.g. *jəb mu* 'image of a crocodile (masc)' (see (3)) is masculine, and *jəb g*^{w}*as* 'image of a turtle' is feminine.

Some names of body parts contain a kinship term, and are assigned the gender of 'possessor'; for instance, *amay tab* 'thumb' (mother of finger) is feminine.

H. Metaphorical extensions and jokes

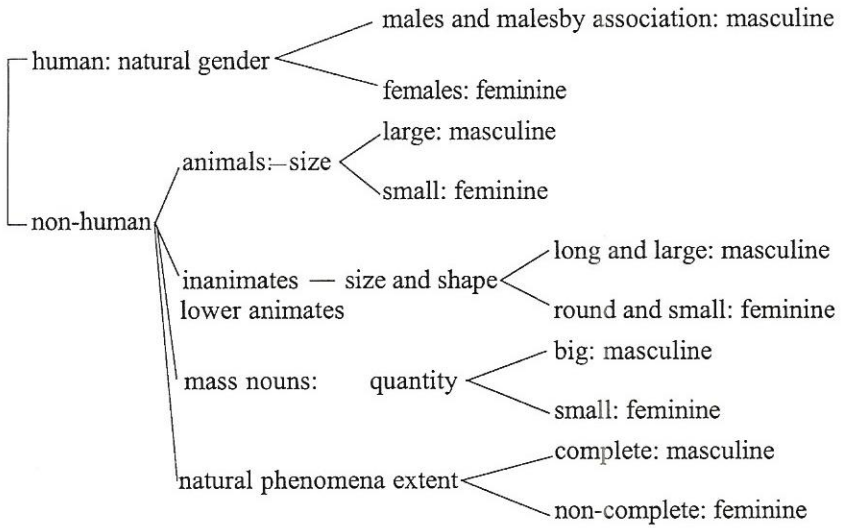
Variable gender assignment is found for nouns with human referents. Nouns which denote male humans and higher animates and long and thin inanimate objects are masculine; those which denote female humans and higher animates and short and round objects are feminine. A smallish fat woman-like man can be treated as feminine, e.g. *nəma du* (big:FEM man) 'fat round man'; and a largish woman can be treated as masculine as a 'laughing stock', e.g. *kə-də nəma-də tak*^{w} (this-MASC big-MASC woman) 'this (unusually) big woman'.

Gender is often used metaphorically to describe unusual situations which involve inanimate objects and body parts. 'Head' is usually feminine because of its round shape, but it is treated as masculine when a person has a headache, since then the head feels heavy and unusually big. (Cf. Dyirbal where the word *yara* 'man' can be used with the feminine class marker, instead of masculine, to point out the female characteristics of a hermaphrodite).

I. Gender variation used with polysemous nouns

Gender variation helps to distinguish polysemous nouns. For instance, *kwamak* can mean 'life, life-span', and then it is feminine as are all lexemes which refer to time (see F); when it means 'someone's face or image', its gender depends on that of the possessor (see G). Similarly, *ga:n* can mean 'nighttime', and then it is feminine (see F); when it refers to night, or darkness as a natural phenomenon, its gender can be either masculine or feminine (see E).

Chart 1 below summarises gender assignment in Manambu.



There are a few groups of nouns with fixed gender (abstract nouns and lower animates with unchangeable shape).

4. Genders in Manambu in a typological perspective

In gender systems across the languages of the world (Aikhenvald forthcoming: Chapter 12) humans and higher animates tend to be assigned genders according to the sex of the referent. Inanimate nouns can be assigned genders based on their shape, size, and also position and consistency (contrary to Croft 1994). Physical properties employed in noun class assignment to inanimates and summarised in Table 4 appear to be perfectly iconic and nature based: women are usually smaller than men, and so smaller size, squat position and round shape tend to be associated with feminine gender. [12]

[12] Semantics of genders in the languages of the Sepik region was discussed by Bruce (1984), for Alamblak; for Oromo see Clamons (1993); for Cushitic, East-Nilotic and Khoisan see Heine (1982); for Tiwi see Osborne (1974).

Table 4. Physical properties in gender assignment to inanimates

parameter	masculine	feminine	example
size	large (& wide)	small (& narrow)	some Afroasiatic languages, e.g. Dasenech, Oromo, Amharic; Turkana, Camus (East-Nilotic) (Heine 1982), **Manambu**
	narrow (& small)	wide (& large)	Cantabrian Spanish (Holmquist 1991), Central Khoisan, Tiwi (Australian) (Osborne 1974)
shape	long	round	Alamblak (Bruce 1984); Central Khoisan, Tiwi, **Manambu**
position	vertical	horizontal, squat	Cantabrian Spanish (Holmquist 1991)
solidity	solid	hollow, deep, concave	Katcha (Kadugli-Kongo) (Heine 1982)

Further examples of shape-based gender assignment to inanimates are found in numerous Papuan languages of New Guinea. In Yonggom, an Ok language spoken in Western province (Christensen 1995: 9–10), feminine gender assignment to inanimates is associated with large size, and masculine gender assignment is associated with elongated shape; a similar system is found in Olo (Torricelli phylum: Laycock 1975:770; McGregor and McGregor 1982:55). In Wära (Fly river; Risto Sarssa, p.c.) long inanimate objects are assigned masculine gender, while round objects and objects consisting of multiple parts are feminine. In Abau (isolate; East Sepik province) feminine gender assignment is associated with flat shape (Arjen Lock, p.c.).

Gender assignment is typically based on a cluster of physical properties. Dimensionality is never the only physical property on which gender assignment for inanimates is based; rather, it always correlates with other properties—e.g. size or position.

If gender assignment to inanimates is SHAPE based and SIZE is secondary, then masculine gender is associated with narrow, vertical longish items. In contrast, feminine items get associated with the opposite: wide (also large), horizontal, round items (e.g., Tiwi, Cantabrian Spanish, Central Khoisan).

If gender assignment is SIZE based, and SHAPE is secondary, masculine items are typically associated with large size, and feminine items are considered small (e.g. Oromo and a few East-Nilotic languages).

The choice between masculine and feminine genders can have different value connotations. Feminine gender is often associated with endearment (as in numerous Afroasiatic languages, e.g. Amharic: Mengistu Amberber, p.c.). For instance, in Palikur,

an Arawak language spoken in Brazil and French Guyana, feminine gender assignment is associated with positive value, while masculine gender goes together 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 (Aikhenvald and Green forthcoming). In contrast, masculine gender assignment in Manambu is associated with cultural importance and positive value, while feminine gender assignment provides the opposite effect.

The difference between Manambu and other shape-based genders lies in a complicated correlation between size **and** shape for non-humans (which cover animates and inanimates). Unlike other gender systems summarised in Table 4, gender assignment to nouns with a non-human referent goes according to size and shape-based properties. Animates tend to be assigned their gender according to size, while shape and size are used for inanimates. For natural phenomena, size is extended to completeness of a phenomenon, and for mass nouns the same parameter extends to quantity. Abstract nouns have a fixed gender.

In the case of Manambu it is impossible to decide whether size or shape is primary in gender assignment of non-humans; this makes the whole system of gender assignment quite remarkable typologically. Our study also showed that the shape and size in gender assignment to inanimates in this language is not just a result of 'stereotypical semantic associations with each sex' (as assumed by Croft 1994: 149, in his polemics with Kiyomi 1992).

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