NOUN CLASSIFICATION OR SPATIAL CATEGORIZATION:

DAMANA ORIENTATION VERBS

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This thesis, submitted by Larry P. Williams in partial fulfillment of the requirements for the Degree of Master of Arts from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.

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This thesis meets the standards for appearance, conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

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TABLE OF CONTENTS

LIST OF FIGURES vii

LIST OF TABLES viii

ACKNOWLEDGMENTS ix

ABSTRACT x

LIST OF ABBREVIATIONS xi

MAP xiii

CHAPTER

1. INTRODUCTION 1

2. NOMINAL CLASSIFICATION SYSTEMS. 8

3. FLEXIBLE USE OF NOUNS WITH VERBS APPROPRIATE TO A DIFFERENT 'CLASS' 16

4. SPATIAL RELATIONS AND METAPHORICAL EXTENSION 22

    4.1 The conceptual basis of spatial relations. 22

    4.2 Metaphor 24

5. METAPHORICAL EXTENSIONS OF SPATIAL RELATION VERBS 28

    5.1 **Te** '(be) upright'. 28

    5.2 **Gag** '(be) horizontal' 37

    5.3 **Pa** '(be) flat'. 43

    5.4 **Du** '(be) without orientation' 50

    5.5 **Zhu** '(be) distributed' 57

6. OTHER SPATIAL RELATION VERBS AND THEIR METAPHORICAL EXTENSIONS 62

6.1 **Yu** '(be) inserted' 62

6.2 **Bi** '(be) hung arched' 72

6.3 **Soz** '(be) snagged' 81

6.4 **We** '(be) apart' 89

6.5 **Ma** '(be) wrapped' 96

6.6 **Pe** '(be) open' 106

7. CONCLUSION 115

REFERENCES 117

LIST OF FIGURES

1. **te** '(be) upright' 37
2. **gag** '(be) horizontal' 43
3. **pa** '(be) flat' 50
4. **du** '(be) without orientation' 57
5. **zhu** '(be) distributed' 60
6. **yu** '(be) inserted' 71
7. **bi** '(be) hung arched' 80
8. **soz** '(be) snagged' 89
9. **we** '(be) apart' 96
10. **ma** '(be) wrapped' 106
11. **pe** '(be) open' 113

LIST OF TABLES

1. Verbs which encode spatial relations 4
2. Spatial Relation: **te** '(be) upright' (Verticality) 35-36
3. Spatial Relation: **gag** '(be) horizontal' 42
4. Spatial Relation: **pa** '(be) flat' (Projecting a boundary) 49
5. Spatial Relation: **du** '(be) without orientation' 56
6. Spatial Relation: **zhu** '(be) distributed' 59
7. Spatial Relation: **yu** '(be) inserted' (Down in)' 70
8. Spatial Relation: **bi** '(be) hung arched' 79-80
9. Spatial Relation: **soz** '(be) snagged' (Be ahead/behind) 88
10. Spatial Relation: **we** '(be) apart' (Gap between) 95
11. Spatial Relation: **ma** '(be) wrapped' 105
12. Spatial Relation: **pe** '(be) open' 112

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ABSTRACT

This thesis argues against a nominal classification analysis of orientation verbs in Damana, a Chibchan language of northern Colombia. As shown through a careful analysis of eleven verbs, the verbal system of Damana primarily encodes spatial relations and does not classify objects by shape.

The evidence for this conclusion proceeds from several areas. First, I show that Damana does not meet the requirements for a noun class system. Secondly, I show that the same object can be freely associated with various verb stems depending on the object's orientation. Thirdly, in metaphorical extensions involving these 'noun class' verbs, it is a spatial relation which is extended and not shape, illustrating the core meaning or sense of the verb. Finally, other verbs are given that describe additional spatial relations, yet have a lexical form which is independent of an object's shape. These verbs are used freely in metaphorical extensions in ways similar to the 'noun class' verbs, forming a natural group of verbs that encode spatial relations as part of the verb's lexical meaning. Because the arguments include extensive discussion of metaphorical extensions, this thesis provides a glimpse into the rich semantic system of Damana.

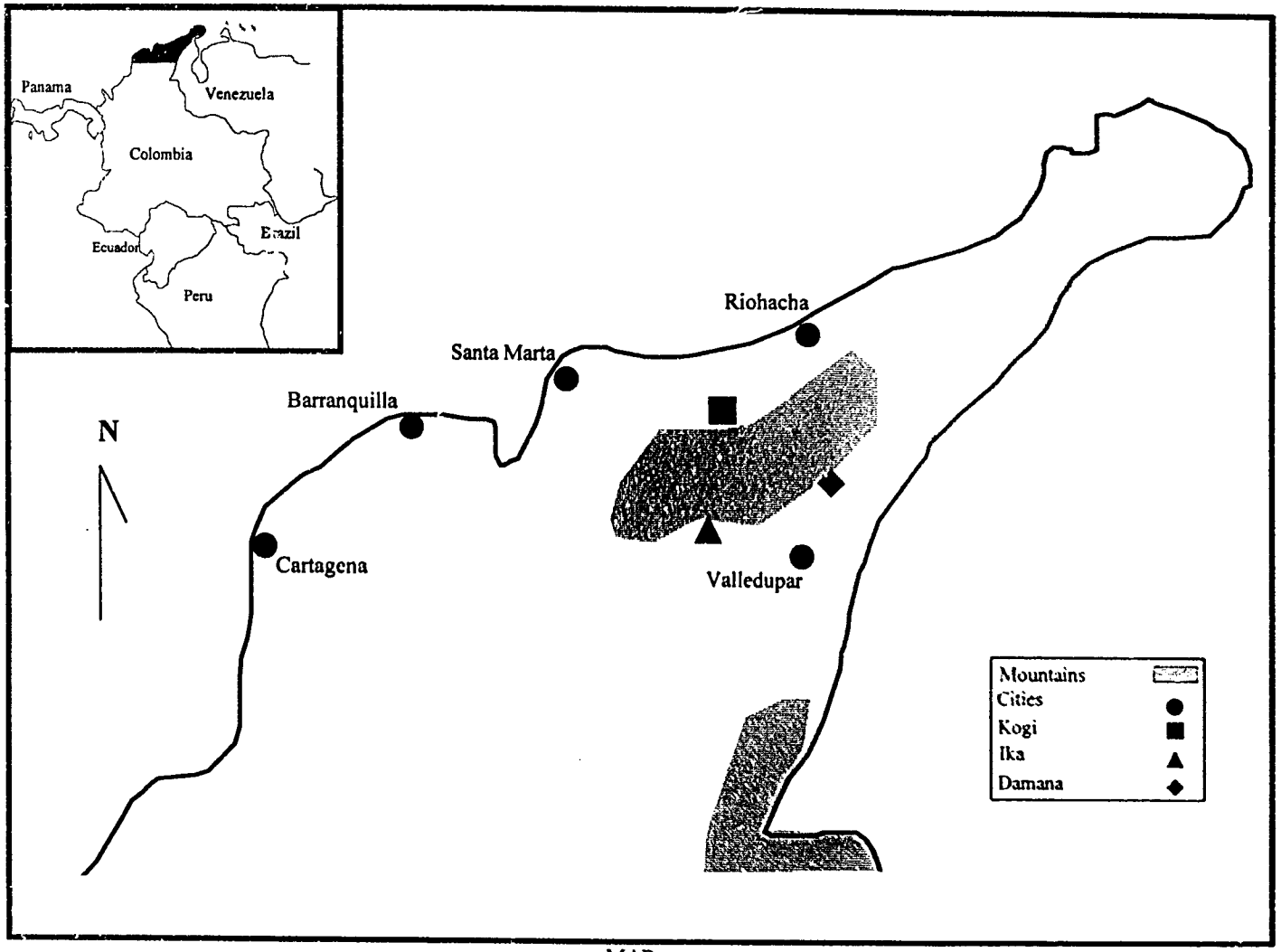
LIST OF ABBREVIATIONS[1]

1p	first person plural
1s	first person singular
2p	second person plural
2s	second person singular
3p	third person plural
3s	third person singular
Advzr	adverbializer
Actvzr	activizer
Ben	benefactive
Caus	causative
CK	common knowledge
Cont	continuative
DefLoc	definite location
Dim	diminutive
DO*	direct object agreement
DOR	direct object reflexive
Erg	ergative
Emph	emphatic
FP*	foregrounded past
Fut*	future
Ger	gerund
Hor	hortatory
IF	interrogative focus
Imn	imminent
Imp*	imperative
Impf	imperfective
Incp	inceptive
IndefFut	indefinite future
IndefLoc	indefinite location

[1]Some of the abbreviations used for the underlying morphemes do not agree with what appeared in C. Williams (1993). For ease in comparing the two works, the differences are: ADZ to Advzr, VBZ to Actvzr, ADV+BEN to Ben, INDFLOC to IndefLoc, DETR to OblR, POSRE to PossR, QS to Q and UNO to UnsO.

Inf	inform
InfW	inform with proof of witness
Intens	intensifier
IO*	indirect object
Lim	limitative
LN	locative nominalizer
Mal	malefactive
Medl	medial
NAP	negative agentless passive
Neg	negative
NegPfv	negative perfective
O*	object
Obg	obligation
Obl	oblique
OblR	oblique reflexive
ON	object nominalizer
Pfv	perfective
PIO	plural inanimate object
PL	plural
Por	portative
Poss	possessive
PossR	possessive reflexive
Prtc*	participle
Pur	purpose
Q	question
S*	subject
SO	shared orientation
Top	topic
UnsAg	unspecified agent
UnsO	unspecified object
Wit	witness
WO	without orientation

* Used in combination with glosses for person and number, e.g. '3pS'


Panama
Venezuela
Colombia
Brazil
Ecuador
Peru
Riohacha
Santa Marta
Barranquilla
N
Cartagena
Valledupar
Mountains
Cities
Kogi
Ika
Damana

MAP

[blank]

CHAPTER 1
INTRODUCTION

> Cultures are in some ways like living beings. They have a unity of their own. They tend to persevere in their being, and their relationship to their environment is vital.... These properties of a culture have their roots in the collective identity of the people, the living human beings who, generation after generation, find it expressed in their culture and above all, in its system of ideas and values. (Dumont 1986:587 as quoted in Wierzbicka 1992:395)

The mountain range in northern Colombia known as the Sierra Nevada de Santa Marta rises majestically out of the Caribbean Sea and reaches a height of about 15,000 feet. Inhabiting this mountain range are the descendents of the Tairona nation, an advanced pre-Colombian civilization. These descendents, having resisted the encroachment of the Spanish conquistadors, the Roman Catholic church, and the predominant Colombian culture, continue living much in the same way as they have for hundreds of years. However, the years of marginal contact since the Spanish invasion have taken their toll. Of an estimated six or more distinct indigenous groups (Reichel-Dolmatoff 1953:17-31), only three remain: the Arhuaco, the Kogi, and the Wiwa.

To the Wiwa, who live in this vast mountain range, shapes and spatial relations are important concepts. The geographical area is mountainous with sharp ridges, pointed peaks, deep valleys, and snow caps. The people live scattered over the mountain range, separated by ridges but connected by steep mountain trails that crisscross the whole area. The mountainous topography may be reflected linguistically in the verbal aspectual

system (see Chapter 5). 'One might say that the structural concepts, from dualism to the construction of sacred space, are based essentially on the empirical observation of nature' (Reichel-Dolmatoff 1974:300).

From the empirical observation of nature, shapes and spatial relations are then categorized. It is through categorization that humans are able to reduce the 'limitless variation in the world to manageable proportions' (Taylor 1989:50). In other words, categorization is primarily a method for understanding the world, and to understand how the people in a language group categorize is to understand, at least in part, how they think. The purpose of this paper is to examine one aspect of the verbal categorization system of Damana,[1] the language of the Wiwa people. An understanding of how this system of categorization is reflected in their language affords a glimpse into how the Wiwa view the world around them.

One aspect of the verbal system in Damana is that there is a set of existence/placement verbs with distinct lexical forms which appear to depend on the physical shape of the object involved. In other languages, this phenomenon has been described as a nominal classification system (Dixon 1982, Carter 1976, Frank 1990). This traditional view fails to take into account the importance of the overall categorization process, and thus is too narrow in its scope. By examining the metaphorical extensions of these verb forms, I intend to illustrate that verb selection is a reflection of the Wiwa's system of spatial organization which is encoded in the semantics of the verbs themselves.

First, some preliminary facts about the verbal system of Damana as well as some morphological background are given. Stative verbs in Damana form a large portion of

---

[1]I have chosen to write Damana with /a/'s because this is the spelling used by Trillos (1989) and is the form being utilized in Colombia. In C. Williams (1993) the language name appears with the first two vowels being schwas.

the verbal inventory. Inherently transitive verbs are rare; the vast majority of transitive verbs are derived from stative verb stems by one of the following strategies: (1) the addition of **-shi** 'causative' (Caus) or (2) perfective aspect in combination with **u** 'do' and/or (3) an overt noun phrase marked with ergative case. The word class of adjective is quite small if only underived stems are considered[2], but the formation of adjectives from verbal stems is quite productive.

Frank (1990) describes what he calls a noun classification system in the related language Ika[3] in which the shapes long, flat, three-dimensional, liquid, holders, and upright are distinguished. G. Reichel-Dolmatoff (1950) however claims that the people groups of the Sierra Nevada perceive the world in terms of spatial orientation, specifically with reference to North, South, East, West, Zenith, Nadir, and Center. This suggests that the choice of verb might be determined not by the shape of an object, but rather its orientation with respect to these seven points of reference. As we shall see, orientation is just as important as shape in Damana. (This can also be seen in Frank's category 'upright'.)

Some of the spatial relation verbs[4] in Damana are listed in Table 1 along with their associated classification according to the above two systems. The classifications listed under ' Following Reichel-Dolmatoff' are based on his interpretation of the primary spatial orientations in the culture although he doesn't provide an analysis for these verbs.

---

[2]Mithun (1988) says that many North American languages lack a special lexical class of adjective.
[3]Ika or Ikan is the name of the language spoken by the Arhuaco.
[4]These were referred to in C. Williams (1993) as orientation verbs.

Table 1: Verbs which encode spatial relations

Damana Verb	Corresponding Category in Ika (Frank)	Damana Gloss	Characterization Following Reichel-Dolmatoff
te	upright	(be) upright	Zenith-Nadir
gag	long	(be) horizontal	North-South East-West
pa	flat	(be) flat	North-South-East-West plane
du	—	(be) without orientation	non-oriented
zhu	—	(be) distributed	—
zu	liquid	pour	—

The verb **te** is used most often with containers or solid objects that have a discernable base. A glass that is upright, a person who is standing, or a pot are all commonly cited objects with this verb. I use the gloss '(be) upright' for **te**.

(1) kunguмaka buku te ushí[5]
kunguma -ka buku te u -shi
earth -at pot upright do -Caus
'Put the pot on the ground!'

(Damana examples in this thesis are presented in a four-line interlinear format. Line 1, the raw text, is written in a proposed practical orthography. Line 2 generally shows the underlying morphemes, although some examples have morphemes lumped together and glossed as a unit on line 2 for clarity in illustrating the particular extension.

[5]The verb **u** 'do' is functioning as an auxiliary to attach the causative suffix **-shi**.

In these cases, the full morphemic analysis is provided in the discussion. In line 3, the morphemes are glossed, followed by a free translation in line 4.)

Stick-like objects such as people lying down and pieces of wood are the objects most often referenced with **gag** '(be) horizontal' (horiz).

(2) kungumaka kun gaga[6] ushí
kunguma -ka kun gag u -shi
earth -at wood horiz do -Caus
'Put the wood on the ground!'

For books, papers, large leaves, and lids to containers, the associated verb is **pa** '(be) flat'.

(3) kungumaka zhinzhoma pa ushí
kunguma -ka zhinzhoma pa u -shi
earth -at book flat do -Caus
'Put the book on the ground!'

Du, '(be) without orientation' (WO), is used with objects that are flexible, such as objects made of fabric.

(4) kungumaka dwadu dwa[7] ushi
kunguma -ka duadu du u -shi
earth -at bag WO do -Caus
'Put down the woven bag!'

The last two classifications also introduce an element of substance into the system. **Zhu** '(be) distributed' (distr) in Damana is similiar to the classification of 'granular mass' found in Athapaskan classification (Dixon 1982). The most common objects that exist in mass in the culture are sand, corn and salt.

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[6]I claim that the final /a/ in **gaga** is epenthetic. It is my understanding that verbs in Damana are optimally bimoraic. An analysis of the phonology has not been completed, however, it seems apparent that /a/ is the default vowel.

[7]I claim that the final /a/ in **dwa** is also epenthetic as in **gaga** above.

(5) rema nungu inzhu ushi
rema nungu i- zhu u -shi
meat salt upon- distr do -Caus
'Put salt on the meat.'

Finally, **zu** 'pour' is the verb used with a liquid. **Zu** is not discussed in future chapters because I believe that it means simply 'pour' and does not appear to be used in metaphor.

(6) dzhira inzu ushí
dzhira i- zu u -shi
water upon- pour do -Caus
'Pour some water over (the food to cook it).'

Locative prefixes frequently occur with this set of verbs. These include: **i-** 'upon', **a-** 'in', and **ku-** 'at'. Formally, **i-** 'upon' would be defined as locating an object x upon a second object y where x is contiguous with a surface of y, and y supports x.

(7) dukunamba nite ushí
dukuna-ba nu- i- te u -shi
leg -Obl 1sDO- upon- upright do -Caus
'Put it upright in my lap.'

A formal definition of **a-** 'in' would state that x is smaller than and located internal to y.

(8) sutamba até nayá nunkwá
suta -ba a- te nai -á nun -kuá
smoke -Obl in-upright go -Pfv be -FP
'Standing in the (midst of the) smoke he left.'

If x is near or in y, where x is portable relative to y and y is not a geographical area, **ku-** 'at' is used.

(9) muramba raga uritena kuteshi awungashka
mura -ba ra -ga zhi- tena ku- te -shi -i u -unga -ashka
mule -Obl 1s -Erg Poss- side at- upright-Caus -Ger do -1sFut-when

makaru uritena kute ushí
ma -ka -ru zhi- tena ku- te u -shi
2s -Erg -Top Poss- side at- upright do -Caus

'While I am putting (coffee) on this side of the mule, you put (coffee) on the other side of the mule.'

When y is a geographical area and solid objects are scattered about on the ground, the verb **te** is prefixed with **un-** 'indefinite location' (IndefLoc).

(10) turuma zhanduna unteshawa shigi agunga
turuma zhanduna un- te -shi -aua shigi ag -unga
potato seed IndefLoc-upright-Caus-2pImp tomorrow plant -1sFut

'You all toss the seed potatoes out on the ground (to dry), I will plant them tomorrow.'

In order to support my claim that Damana does not have a noun class system, chapters 2 through 6 develop arguments that what these verbs encode are spatial relations as part of their semantic meaning. Chapter 2 shows that Damana fails to meet the requirements of a nominal classification system as defined by Dixon (1982) and Allan (1977). Chapter 3 shows the noun class analysis also fails to account for examples involving neutralization (i.e. loss of object class in verb selection). Chapter 4 summarizes spatial perception in humans and the use of metaphor in extending spatial relations, providing background information for Chapters 5 and 6. Chapter 5 illustrates that it is the spatial relationship encoded in the verb and not the physical shape of an object which is extended by metaphor. Finally, Chapter 6 shows that there exist in Damana other verbs for which there are no associated objects, yet these verbs exhibit the same types of spatial extensions as the 'noun class' verbs, further bolstering the argument that it is spatial relations, and not inherent properties of objects like shape, which are central in the system.

CHAPTER 2
NOMINAL CLASSIFICATION SYSTEMS

The first question to ask about Damana is 'Does Damana in fact exhibit a noun class system, or any other system of nominal classification?' In the relevant literature, nominal classification systems are analyzed and compared according to the number of nominal classes, how rigid ('classical') the classes are, whether or not all the nouns are categorized, how the noun class is referenced in the clause, and finally, how grammaticalized or semantically motivated the classes are. Aside from gender systems, all systems of nominal classification share a common set of semantic categorization principles based on man's social, physical, and functional interaction with the objects of their environment (Craig 1986). Before discussing how the verbal system in Damana compares with nominal classification systems, several languages or systems of classification are discussed below to illustrate clear cases of nominal classification.

Gender systems, which are the most familiar nominal classification systems for western linguists, appear to be based primarily on animacy and sex. There are prototypically a small number of classes with a high degree of rigidity, and usually all nouns are classified. They are referenced close to the head noun, forming a morphological unit with it, and are highly grammaticalized. In systems with only two noun classes, certain classifications may appear to be quite arbitrary. For example, the nouns that would be classified as inanimate or 'neuter' in a three-way system are distributed between 'masculine' and 'feminine' genders in Romance languages. This distribution is not based to any great extent on any semantic factor (Dixon 1982).

Swahili, a Bantu language, has eight classes, based primarily on inanimate things, non-human living things, human things, and things that occur in quantity. The classes are fairly rigid, and, excluding the human class, it has been difficult to propose a strong semantic basis for the classification.[1] In the following example, vi- is the plural inanimate object (PIO) classifier. The noun class is referenced on the head noun, the verb and any modifiers of the head noun in a concordial system. Example (11) is taken from Dixon (1982:161).

(11) vikombe vidogo viwili vimevunjika
vi- kombe vi- dogo vi- wili vi- mevunjika
PIO- cup PIO- small PIO- two PIO- be.broken
'The two small cups are broken.'

In Japanese, there are 200-300 different classes or classfiers (Downing 1986). The choice of classifier which is often fixed by convention creates rigid classes with few nouns being able to be used with more than one classifier. Not all nouns are obligatorily classified. The classifers are free forms forming a morphological unit with the numeral or deictic. They typically do not bear any information about the semantic nature of the referents that is not provided by the referent itself (Downing 1986). In contrast to noun class indicators, these free form classifiers can be used anaphorically. To an English speaker, this system of classification seems redundant, because glossing yields expressions such as 'four round-things of oranges' or 'six long-things of trees'.

Navajo, an Athapaskan language, has twelve classes (Hoijer 1963). The classes are based mainly on shape (round, long, fabric-like, bulky, rigid, mass, and etc.). This system is different from the previous ones in that the nominal classification is encoded only on the verb, and is described by Allan (1977) as a predicate classifier system. The

[1]Denny and Creider (1986), however, have recently proposed a strong semantic basis for Proto-Bantu, but it has not yet been determined how much of this system is still operative in present day Bantu languages.

encoding involves suppletive verb stems which reference both the verbal event and a classifying characteristic of an associated entity which is typically the absolutive of the verb (subject of an intransitive, or object of a transitive). The coding describes the shape of concrete objects which are (1) at rest, (2) in motion or being handled, (3) being dropped or thrown, or (4) falling. The classes have a degree of flexibility as shown in the following example, taken from Allan (1977).

(12) béésò sì'á́
béésò sì- 'á́
money perfect- lie (of round entity)
'A coin is lying (there)'

(13) béésò sìnìl
béésò sì- nìl
money perfect- lie (of collection)
'Some money (small change) is lying (there).'

Allan (1977) notes that although the number of classes may vary greatly in nominal classification systems (excluding gender systems), the semantics used for classification appear to be generally based on the following six[2] categories: material, shape, consistency, size, arrangement and quanta. The category material can be sub-divided on the basis of animacy. Shape has subcategories of long, flat, and round, sometimes referred to as one, two, and three-dimensional. In addition to these, there are subcategories of non-dimensional shapes: prominent curved exterior, hollow, and encircling. Consistency can be divided into flexible, hard or rigid, and non-discrete. Big and small are subcategories of the category size. The category of arrangement classifies objects: in some specific and non-inherent configuration (e.g. coil, loop, pleat), in a specific position like 'objects in a row or parallel', in a specific non-inherent distribution

[2]Allan (1977) lists location as a category which would make seven categories, but the distribution of this was limited to one language family, therefore I omit it.

(e.g. heap or clump). Some of the subcategories under quanta are number (e.g. dual), collection (e.g. bunch, cluster), volume (e.g. handful), instance (e.g. kind of, sort of), and partitives (e.g. piece of, sheet of).

Nominal classification systems are divided by some linguists between noun class systems and classifier languages. The terms noun class system and noun classifiers are used almost interchangeably in much of the literature, but both Dixon (1986) and Allan (1977) make a distinction between them. For the purposes of this paper, the distinction between them is not crucial since both are nominal classification systems, but because a distinction is made I will consider each one to show that Damana does not fit either description.

Dixon claims that with the great diversity in language and methods of classification, 'it may not be possible to find a common factor underlying every phenomenon that has been called noun classes (1982:160)'. In Dixon (1986), he proposes the following three criteria to define nominal classification. He considers it important to distinguish between noun classes and noun classifiers.

	Noun classes	Noun classifiers
a. number of classes	small and finite number	larger and more open
b. morphology	inflectional morphology	free lexical morphemes
c. grammatical use	obligatory and rule set (rigid)	discourse sensitive

Allan (1977: 285) defines a classifier as a 'surface morpheme' which 'denotes some salient perceived or imputed characteristic of the entity to which the associated noun refers'. His major criterion is the semantic input of the classifier. He excludes gender systems because he considers them to be semantically empty. Classifiers 'communicate a few especially important classes that objects fall into by virture of the

way we interact with them' (Denny 1976:125). Allan would allow more flexibility in the use of classifiers, in that a given noun may be used with more than one classifier.

The noun class or noun classifier system that is of particular interest for a study of Damana is the system found in the Athapaskan language family. The only area of the world known to have had this type of nominal classification, that of classifying verb stems, is in the western part of North America (Dixon 1982). Frank (1990), however, considers Ika, a language which is spoken by the Arhuaco of Northern Colombia and closely related to Damana, to have a noun class system similar to Athapaskan (as described by Dixon), with long, flat, three-dimensional, liquid, things with holders, and upright objects. He states that the physical shape of objects determines the choice of certain verbs or predicate nominals which may occur with those nouns. He considers the noun class system in Ika to be minimal, however, in that 'it involves only nouns referring to concrete objects and the noun classes are only relevant in locational sentences' (p. 53).

Since 1932, many linguists have shown an interest in the classificatory verbs of Athapaskan because they employ a predicate classifier system (Allan 1977). Dixon (1986) says that the Athapaskan system does not fall clearly into either a noun class system or a noun classifier system. Although there is a small set of classes (twelve in Navajo, nine in Chipewyan (Elford 1963), and ten in Dogrib (Davidson 1963)) in Athapaskan languages, the system of classification is quite limited in that only some of the nouns are classified and only on some semantic types of verbs. Dixon considers this system a combination of the two types of systems: 'Athapaskan classifying verb stems are unique in combining a major grammatical category of noun classes with semantic and distributional features that are characteristic of classifier sets' (Dixon 1982:224). Dixon (1982) claims, however, that the category of 'noun class' should be recognized for Athapaskan languages. Allan (1977) lists Athapaskan as a classifier language based upon his definition.

Damana, as shown in Table 1 (page 4), has a system similar to Ika where the choice of verb appears to be determined by the shape of the absolutive. The coding in Damana occurs only with concrete objects at rest or being handled. Like Ika, Damana does not have a limited set of noun classes into which all the nouns are grouped. If what is encoded in the verbs can be considered to be defining noun classes, the system is very flexible with the nominal being used with different stems depending on the verbal event. However, it is better to say that what is being encoded in the verb in Damana are not inherent properties of an object (like shape) which could create noun classes, but spatial relations and orientations. For example, a long (stick-like) object will be 'referenced' by a verb stem that supposedly classfies it, but in fact, it can only be used when it is in a certain orientation. I therefore contend that there is no true noun class system in either language.

The main question, then, is whether the system in Damana, like Athapaskan, classifies objects according to their physical shape (a salient, perceived characteristic of a nominal) and could be considered a classifier language. If the objects (long, flat, and upright) are placed in their prototypical orientations, the stems do seem to correspond to the shape of the object. However, there are some basic differences between the Athapaskan system of classification and the verbal system of Damana. As an example, the round class in Navajo utilizes four distinctive stems: one for a round object at rest, one for the placement of a round object, one for throwing a round object, and one for a round object falling. Compared to this, Damana has a very limited system. 'To throw' and 'to fall' do not have a classificatory verb stem. 'To put' and 'to be' are combined and referenced by the same stem. I contend for Damana that what is encoded in these spatial relation verbs are the orientations (e.g. lie, stand, sit) referring to the particular verbal events of 'to put' or 'to be'.

The spatial relations (upright, horizontal, flat, and without orientation) do not define inherent properties of nouns that could classify them although there exist certain shaped objects that are more prone to be associated with certain orientations. While noun-verb collocations give the appearance of classifying objects, co-occurrence constraints between nouns and predicates do not classify nouns. Therefore, Damana and Ika should not be considered as classifier languages.

Damana and Ika, like many North American languages, exhibit a concentration of morphological complexity within their verb forms. Mithun (1989) contends that languages with complex verbal morphological systems grammaticize different sets of semantic categories than those with well-developed nominal morphology. Rather than describing persons and objects, they describe aspects of events and states (p. 279).

> A liquid occupies a position in a different way than a stick. People manipulate cloth in a different way than a many-pointed object. The classifier chosen does not depend on an inherent feature of the object, but on the way it moves or is handled (Mithun p.269).

I argue in this thesis that what is relevant in Damana is primarily orientation rather than shape. Forcing a noun class system on these languages creates classes such as 'things with holders' as mentioned above for Ika. By considering this to be a noun class, Frank is forced to restrict the holders in question to ones designed to contain a specific object. He lists the relationships of putting 'legs in pants', 'feet in shoes', and 'machete in sheath' as all referring to the noun class 'things with holders'. A far simpler approach would be to describe the verb as meaning 'to be inserted', and dispense with any special class of nouns.

In summary, Ika and Damana do not have a noun class system nor are they classifying languages. The nouns of these languages are not exhaustively grouped into a small number of classes. What is being encoded in the verb is not an inherent property

of a noun (that could define classes) but spatial relations and orientations. 'Noun classes' created by co-occurrence constraints between nouns and predicates do not constitute a classifier language.

Further arguments for this claim are offered in later chapters. In Chapter 3, verbs normally associated with objects of a certain shape are shown to occur freely with objects of other 'shapes'. In Chapters 5 and 6, metaphorical extensions of Damana verbs also support the claim that what is important in Damana is not the shape of an object per se, but rather its spatial relation with respect to its environment.

CHAPTER 3
FLEXIBLE USE OF NOUNS WITH VERBS APPROPRIATE TO A DIFFERENT 'CLASS'

In a nominal classification system using classificatory verbs, the lexical choice of verb stem is based on some salient and perceived characteristic (e.g. shape, texture, etc.) of the absolutive NP. The purpose of this chapter is to illustrate that while each object has an inherent shape, it can be freely used with a verb stem associated with other shapes. This flexibility argues strongly against a nominal classification system.

There are many situations in which the perception of shape may vary. Lawrence (1977:97 as quoted in Mithun 1989) notes that 'some objects may be classified in more than one way, according to the object size, its spatial arrangement, or what part of the object is being specifically considered'. Verbs of placement may be further complicated by the additional features of 'sideways' versus 'rightside up'. The interaction of these different aspects of perception are illustrated in the following set of examples involving the placement of a glass. A glass in Damana is culturally considered to be an object with a discernable base which would normally have a vertical orientation. Under a nominal classification system, it would be assigned the verb **te** '(be) upright'.

(14) unaga mesamba azhimeta te awín
una -ga mesa -ba azhimeta te u -in
3s -Erg table -Obl glass upright/Pfv do -CK
'He set (put) the glass on the table.' (normal vertical relationship)

However, if the glass is placed lengthwise on the table rather than rightside up, the verb form used is **gag** '(be) horizontal', not **te**.

(15) unaga mesamba azhimeta gagá awín
una -ga mesa -ba azhimeta gag -á u -in
3s -Erg table -Obl glass horiz -Pfv do -CK
'He laid (put) the glass on the table.' (sideways)

Finally, if the glass is placed upside down, the verb chosen is **pa** '(be) flat' referring to the opening of the glass.

(16) unaga mesamba azhimeta pa awín
una -ga mesa -ba azhimeta pa -á u -in
3s -Erg table -Obl glass flat[1] -Pfv do -CK
'He put the glass on the table.' (opening flat on table)

Nominal classification systems can be somewhat flexible in that when the focus is on some specific characteristic of the referent or when the characteristics of the referent are compatible with more than one classification, the same noun can be used with different classifiers. In most nominal classification systems, however, there is a relatively small number of nouns that can occur with markers from more than one class. In cases when the verb chosen does not match up with the prototypical shape/orientation of the object, a marked or novel interpretation is usually inferred. This is generally reserved for special effect.

In Damana, virtually any noun can be used with more than one spatial relation verb. The verbal stem is chosen simply to indicate the spatial orientation and not for any special effect. In the examples above, the changing of verb stem did not shift the focus from one salient characteristic of the object to another, nor did different verb stems make the referent of the noun more precise (as in the Navajo money examples). These examples illustrate rather vividly that Damana does not have a highly grammaticalized noun class system with clear-cut shape classifications, but rather a scheme which depends

[1]The placement of a container using **pa** '(be) flat' is extended from the spatial relation of projecting a boundary (see Figure 3).

on other semantic factors. In each of the preceding examples, it was the spatial relation which proved to be the deciding factor in verb selection and not the shape of the object. Proponents of a 'classical' noun class analysis would argue that in these cases the domain of classification of concrete objects is not extended, but rather only reorganized temporarily (Rushforth 1991), but I would contend that it makes more sense to argue for a verbal system that encodes spatial relations as part of the semantic meaning of the verb rather than a 'rigid' noun class system which can be temporarily reorganized.

In the following example, wood is normally thought of as a stick-like object and so might be expected to appear with gag (which following Frank 1990 would be glossed 'long'). However, if used with te '(be) upright', a culturally relevant situation is pictured where wood can assume a vertical position. In Wiwa culture, this would typically mean that the wood was placed in a hole in the ground.

(17) gwiandzhinaga uraga gawa awashkuru kun
guia -dzhina -ga uraga gau -a u -ashka -ru kun
brother-PL -Erg house make -Pfv do -when -Top wood

ate kun ate uka ni
a- te kun a- te u -ka na -in
in- upright/Pfv wood in-upright/Pfv do -Prtc be -CK

'When the older brothers build a house, they put poles in the ground (all around the base of the house).'

Example (18) is an illustration of **te** with another object which is incapable of supporting itself vertically. Culturally, the only way that a pencil (stick-like object) can be vertical and not in something is if it is leaning against another object. The prefix **ku-** 'at' would exclude someone holding it vertically.

(18) lapiz azhimetamba kuté
lapiz azhimeta -ba ku-te
pencil glass -Obl at- upright

'The pencil is standing up (leaning) against the glass.'

The placement of a woven bag would prototypically use the verb **du** '(be) without orientation'. In the following example, however, the use of **gag** '(be) horizontal' indicates that the object is long (horizontal) with respect to some surface. Therefore, the interpretation of the clause below would be that the strap (that part of the fabric-like object which is long) is horizontal (stretched across the body).

(19) busimba naywá awashkuru ʉnanzhe dwadu kungaga
bus -ba nai -unuá u -ashka -ru ʉna -zhe duadu kʉ- gag -a
bus -Obl go -Imn do -when -Top 3s -Poss bag at- horiz-Pfv

nigangwa inzhagay ukwame.
nigangua i- zhanga -i ukuame
nobody upon- steal -Ger prevent

'As he started to go by bus, he put his bag over his head and shoulders so that nobody would steal from him.'

If a woven bag (fabric-like object) is used with **pa** '(be) flat', it signifies that the bag is empty, 'flat against self'. The use of **nun-** 'SO' (Shared Orientation) indicates that the surfaces have the same orientation.

(20) ʉna duadu nʉmpa nayʉnuka.
ʉna duadu nʉn- pa nai -ʉn -nuk -ka
3s bag SO- flat go -Impf-be -Prtc

'He is carrying an empty bag.'

This is because **pa** 'flat' profiles the interaction of two reasonably flat surfaces. Even though the surface where the object is placed is prototypically flat, this is not a requirement. In the following example, the placement of **munkusara** 'clothes', which would normally be classified as 'fabric-like' and use the verb **du** 'WO', uses **pa** 'flat' which indicates that the clothes are stretched out flat. The exact object that the clothes are placed on is not mentioned, but it is assumed (based on normal cultural patterns) that clothes are flat after they have been washed and are stretched out on large rocks to dry.

(21) ukunarga mukusara pa ushi
u -kuna -ru -ka mukusara pa u -shi
here-place.of -Top -at clothes flat do -Caus

'Put the clothes out (on big rocks) in front of the house.'

In fact, the surfaces may be horizontal, or not even a 'surface' in the normal sense at all.

(22) suzhi sha igu pa kunuka
suzhi sha igu pa ku -nuk -ka
bird hair here flat Ben- be -Prtc

'That bird had long flowing hair down to here (pointing) (lying flat against his back).'

A hose is long and would normally co-occur with the spatial relation verb **gag**, 'horiz' for stick-like objects. However, if it is in a disarrayed condition, **du** 'WO' is the verb chosen to indicate the spatial orientation.

(23) mangera manzhe shamunkumba dwa
mangera ma -zhe shamunku-ba du
hose 2s -Poss head -Obl WO

'Your hose is lying (tangled up) on top of the table.'

These examples consistently illustrate that a variety of semantic factors play a major role in the choice of verb for a particular object. Although objects have prototypical shapes and orientations, they are freely used with different verbs to express non-canonical spatial relationships. Carter (for Chippewyan), Frank (for Ika), and Dixon (for Athapaskan) all make claims regarding the existence of a noun class system. Ika behaves like Damana in that the so called noun classes are not rigid, and may be reorganized (if only temporarily) based on semantic factors. I submit that the choice of verb stem in Damana (and probably also in Ika) is based on spatial orientation and while certain shaped objects have a proto-typical orientation which normally co-occurs with a certain verb stem, the choice of a verb not matching up with this orientation does not

give a novel or strange interpretation, but serves only to explain the spatial relation of the object.

CHAPTER 4
SPATIAL RELATIONS AND METAPHORICAL EXTENSION

In this chapter some background is given before looking at the examples from Damana in Chapters 5 and 6. Section 4.1 discusses the grounding of spatial relations; how the categorization of space is based on interaction with the environment. Section 4.2 looks at how these spatial relations, forming part of the human conceptual system, are extended by metaphor to express other concepts.

4.1 The conceptual basis of spatial relationships

There is something almost comforting about categorization. By having things divided up and labeled we feel that we understand them. A salient example of categorization is the geographical and political divisions of the world. To know how a city is laid out or what countries are in a continent makes one feel that the territory is understood. The space in which we live and interact is categorized for the same reason.

Urban (1939:186) states that 'our intellect is primarily fitted to deal with space and moves most easily in this medium. Thus language itself becomes spatialized, and in so far as reality is represented by language, reality tends to be spatialized.' Spatial relations are encoded in languages in terms of propositional representations.

> The propositional representation consists of a predicate and two arguments. The first argument, the referent, specifies the features or objects being located; the second, the relatum, specifies the frame of reference in which that location is defined. The predicate is a categorical spatial concept that describes the relation between the object (referent) and the frame of reference (relatum) (Bialystok and Olson 1987:511).

The concept of space that is important in this paper is not the Newtonian concept of space (that is, space which is completely continuous and homogeneous, going on without seam in three open-ended dimensions), but rather relativistic space. Newtonian, or absolute, space is a coordinate system independent of any of the things that the space might contain, while relativistic space references the spatial relations relative to the objects that occupy it. In relativistic space, a landmark is selected and coordinate axes are oriented from this landmark. These are the relational structures that preserve properties like shape, size, orientation, direction and dimensionality.

As human beings, we impose spatial structure on virtually every scene by categorization. In describing a scene, a referent is selected and contrasted against some relatum. The primary relatum is oneself—one's own body. Cassier (1923) and many others have maintained that primitive spatial relations deal with the body and what is 'at', 'in', or 'on' our own bodies. As a child begins to categorize his spatial surroundings, up/down, front/back, and right/left (the primary categories for interpreting objects in space, Bialystok and Olson 1987:513) are all learned with respect to the child's own body.

As the child progresses, the need arises to reference locations away from the body. His egocentric conceptualization of space is not eliminated, but a competing, supplementary system is created in which a separate object becomes the relatum. Therefore, for adults, there are two ways of anchoring an object in space: using the body as the relatum or another object.

Once a person has learned to use an object as relatum in his view of space, the problem arises of assigning meaning to the primary categories of up/down, front/back, and right/left. The assignment of up/down is fairly straightforward, but front/back is more difficult to ascertain. Teller (1969) states that 'front' is defined in terms of something that is functionally prominent. Fillmore (1971) (as cited in Miller and

Johnson-Laird 1976:400) claims that with animate objects, the front is considered to be the side that contains the main organs of perception. Miller and Johnson-Laird (1976) contend that the front should be the side in the direction of normal motion but point out that the location of the organs of perception outweighs consideration of direction of motion because a crab is said to walk 'sideways'; its primary motion is not in the direction of its head, yet "side" and "sideways" are assigned with respect to the head.

In the absence of overriding circumstances, the front of an inanimate object is usually the side closest to the person assigning the categories of front/back. Overriding circumstances include the aforementioned direction of motion and situations in which, based on pervasive metaphors, an object has a culturally assigned front or back. Among the Wiwa, for example, houses have only one door. Based on the metaphor 'the body is a container', the opening for the door would correspond to its organ of perception or ingestion, and therefore, the side of the house where the door is located is considered to be the front. In this way, whenever possible, each object, whether animate or inanimate, is assigned a front, back, top and bottom from which to make reference.

4.2 Metaphor

Metaphor is the process of transferring or projecting some concept from a known (source) domain to structure a concept in perhaps an abstract or less known (target) domain. 'Much of our social reality is understood in metaphorical terms, and since our conception of the physical world is partly metaphorical, metaphor plays a very significant role in determining what is real for us' (Lakoff and Johnson p. 146). Taking what has been learned on the basis of experience and applying it to new ideas is a way of categorizing and making sense of phenomena in the world in terms that are familiar. In this way, metaphor is present in all areas of life, thought, and action. There may be some debate as to the extent that the way we perceive the world is affected by the way we talk

about it , but there is little doubt that our perception of the world affects our communication about it (Miller and Johnson-Laird 1976).

Many fundamental concepts of a culture are organized in terms of spatialization metaphors. Lakoff and Johnson (1980) claim that most metaphorical expressions in a language have to do with the projection of spatial orientations. Spatial schematic concepts, therefore, form the foundation of our conceptual system. They emerge through our interaction with the physical environment and are the concepts we live by in the most fundamental way. These spatial concepts recur in our everyday bodily experience and include containers, paths, links, and various orientations and relations: up-down, front-back, part-whole, center-periphery, etc.

The verbs introduced in Chapter 1, as well as the verbs presented in Chapter 6, are all spatial relation verbs. These spatial relation verbs are extended by the following orientational metaphors which have been taken from Lakoff and Johnson (1980): (1) 'Conscious is up; unconscious is down.' This is experientially based on the fact that humans lie down when asleep and stand up when awake. (2) 'Health and life are up: sickness and death are down'. This is reinforced by the position of sick and dead people. In Damana, 'to live' and 'to bury' will be shown in Chapter 5 to be based on this metaphor. (3) 'Having control or force is up; being subject to control or force is down.' In Chapter 5, this is illustrated in Damana with the spatial relationship 'to be over' as 'to be in control'. A related but distinct metaphor in Damana equates 'to be in front' with 'to be up' when talking about being in control. (4) 'More is up; less is down.' This is based on the image of adding a substance to a container or objects to a pile. As more is added, the level goes up. In Damana (Chapter 5), this metaphor is used with 'to be full'. (5) 'High status is up; low status is down.' Another Damana-specific metaphor equating 'to be in front' with 'to be up' is 'high status is to be in front; low status is to be behind.'

'To be in front' in Damana means 'to be responsible' or 'to be in charge'; this is illustrated in Chapter 6.

Besides orientational metaphors, spatial relation verbs are also extended using metaphors[1] that arise out of experiences with physical objects (especially one's body). These metaphors treat events and activities as entities and substances. In Damana, container metaphors are used to extend concepts such as 'to be cloudy', 'to cooperate' or 'to be attentive'. Locations are also treated as objects (container-like) after artificial boundaries are imposed (e.g. a clearing in a forest). The term 'steep slope' (see example 93) in Damana is a personification of a person going down a steep slope. An activity to be halted in Damana is viewed as an object that can be 'wrapped' and left behind.

Another means of extension that I treat as a subset of metaphor is metonymy—when one entity is referred to by some associated entity. The designation of a part to represent the whole is a common example of this in many languages (e.g. heads of state). The experiential basis of metonymy is more obvious because it usually involves direct physical or causal association (Lakoff and Johnson 1980). Damana, having mostly stative verbs, uses resultant state in many cases to represent the process (end for means), and vice versa (means for end). End for means is illustrated in Damana with 'to have a gap between' meaning 'to fly' and 'to cause a gap' being used to represent the activity of fanning (a fire). Means for end can be seen in the term for 'sweet' which is literally 'to have caused to go around in a circle' (see example 168) and 'to receive' which is ' to cover with hands'.

In summary, categorization based on spatial concepts is a natural consequence of interaction with a physical environment. From this interaction, two systems of deictic reference emerge; one using the body as the relatum and the other using an object. The

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[1]Lakoff and Johnson (1980) label these as ontological metaphors.

metaphorical extension of these spatial concepts is accomplished using orientational metaphors, metaphors treating events and activities as objects, and metonymy. These various strategies of extension are illustrated in the next two chapters, showing that the 'core' concepts being extended with the verbs have to do with spatial relations, not shape.

CHAPTER 5
METAPHORICAL EXTENSIONS OF SPATIAL RELATION VERBS

In this chapter I present the primary evidence that what is extended by metaphor with the spatial relation verbs introduced in Chapter 1 is not shape, but spatial orientation. This illustrates the claim that extrinsic factors are what is important to these verbs, not inherent properties of the object like shape and material. This, in turn, argues against a noun class analysis of these verbs. The discussion concurs with Mithun's (1989) claim that languages with extensive verbal morphology categorize aspects of events and states rather than inherent properties of objects.

5.1 Te '(be) upright'

As might be expected, **te** '(be) upright' occurs frequently in metaphors whose source domain is verticality. Up-down is one of the basic or primitive orientations (Lakoff and Johnson 1980) and when extended to structure some other concept or abstract domain, the shape-class of 'solid object with discernable base' is really not an issue. 'To be standing' is structured from the core sense of **te** '(be) upright'. **Zhite** (**zhi-** 'OblR' + **te** 'upright') literally means 'to be upright on one's own (feet)'.

(24) manzhingwia zhite kayaru nekuzhi terga
ma- zhi- guia zhite kaia -ru nai -kuzhi te -ru -ka
2s- Poss- brother stand.up after -Top go -Hor field -Top -at
'After your older brother stands up, let's go to the field.'

When **te** 'upright' is used in situations not involving placement or location, there is a strong sense of inactivity or stillness. For example, the term in Damana for a

cultivated field is **te**[1], referencing the verticality of the plants and the stillness or rooted aspect that is extended in this use. Often the vertical component is ignored or suppressed, and the stillness aspect is extended. Compounded with the morpheme **zi** 'careful', **te** means 'be very still'. As with many compounds that use **zi-**, there is a certain element of secrecy and the implication of being hidden.

(25) uragurga zite kuma nukuga nurtshwi ukwame.
uraga-ru -ka zite kuma nuk-kuga nu- dzhi- tu -i ukwame
house-Top -at be.still InfW be -1sFP 1sDO- 3pS- see -Ger prevent
'In the house I was quiet and still to prevent them from seeing me.'

'To bite' is also derived from the verb **te** 'upright'. The compound (**kuka** 'tooth' + **a-** 'in' + **te** 'upright') literally means 'to put teeth in vertically'. The shape of teeth is not the prototypical one for **te**, but this is irrelevant, the important element of meaning is verticality.

(26) ukwemundzhi umamba kukate
u -kua -i -mundzhi uma -ba kukate
do -FP -Ger -from eye -Obl bite/Pfv
'Afterwards (they) bit the eye.'

With string, **te** is extended to mean 'to be tied up'. Cultural information comes to bear here, in that a trap is strung with enough tension so that when an animal comes, the string releases, thereby trapping the animal. When the trap is set, the string has a vertical orientation. In the following example, **shate** (**shi** 'string' + **a-** '3sIO' + **te** 'upright') means 'to be tied up'; **a-** '3sIO' cross-references with **dumaga** 'puma'.

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[1]Interestingly, Adams and Conklin (1973) claim that the basic shapes (orientations) which are the strongest metaphors occuring in classifier systems all have their source or basis from plants.

(27) shigi dumaga shateshunga
shigi dumaga shate -shi -unga
tomorrow puma be.tied.up -Caus-1sFut

'Tomorrow I will trap the puma.' (Literally: 'Tomorrow I will cause the puma to be tied up.')

'Having hair piled upon the head' is expressed by compounding **te** 'upright' with **zhi-**[2] '3pS' and **i-** 'upon' to indicate that hair is upright on another upright object. All Wiwa have very long hair, and when it is hot, a man will pile his hair up on top of his head and hold it in place with a hat in order to keep it off of his neck. Interestingly the expression has been extended and conventionalized to mean 'short hair'. **-kwega** (**-kua** 'exist' + **-ai** 'Advzr' + **-ka** 'Prtc') is suffixed to **ishte** (**i-** 'upon' + **zhi-** '3pS' + **te** 'upright') to make the predicate adjective 'existing piled upon'.

(28) unguzi sha ishtekwega
unguzi sha ishtekwega
little.bit hair short

'He has somewhat short hair.'

Here again, the verticality of **te** is what is important, not the shape of the object involved since hair is prototypically associated with **pa** '(be) flat'.

'To be tall' is derived from **te** emphasizing verticality. The predicate adjective **zhitekwega** (**zhi-** 'OblR' + **te** 'upright' + **-kwega**), which literally means 'to exist standing up on one's own (feet)', has been conventionalized to mean 'to be tall'.

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[2]**Dzhi-** '3pS' in certain environments has a variant form **zhi-**. Its use with orientation verbs indicates that the objects in the spatial relationship being discussed are in the same orientation.

(29) ranzhingwiaru zhitekwega nunamekuma mandakangwa
ra- zhi- guia -ru zhitekwega nun -ame -kuma manda -ka -gua
1s- Poss- brother-Top tall be -because-InfW above -at -also

mangu gugá awá
mangu gug -á u -á
mango get -Pfv do -Pfv

'Because my older brother is tall, he can get even the high mangoes.'

'More is up; less is down' is a metaphor that utilizes verticality as its source domain. This metaphor is based on perceptual experience because as more of a substance or more physical objects are added to a pile or a container, the visible level of the substance goes up. 'To be full' is structured from this metaphor. Example (30) refers to the situation where there is a sufficient quantity inside a container to be considered 'heaped' out the top. **Atesha** (**a-** 'in' + **te** 'upright' + **-shi** 'Caus' + **-a** 'Pfv') literally means 'to cause to be upright inside' and is conventionalized to mean 'full'. Again, shape is irrelevant.

(30) ingwi atesha unakunga
ingwi atesha u- nak -unga
one full Por-come -1sFut

'I will bring one potful.' (Literally: 'I will bring one full pot.')

In the following group of examples, the idea of verticality is extended to mean 'to be alive'. These are examples of the metaphors 'health and life are up; sickness and death are down' (Lakoff and Johnson 1980). In Damana, **unte** (**un-** 'IndefLoc' + **te** 'upright') is used to mean 'to be alive' or 'to live'.

(31) nawindzhinaru zumé unte nukuzhín.
nawi -dzhina -ru zume unte nuk -kut -u -in
1p -PL -Top well live be -1pS -Wit -CK

'We all are living well.'

(32) shiká peburumba dzhuntenuka
shiká peburu -ba dzhi- unte-nuk -ka
people village -Obl 3pS- live -be -Prtc
'People are living in the village.'

The following word for 'bus terminal' was coined in the past few years and illustrates the continuing productivity of the combinatory process using these spatial relations. The literal meaning of **karundzhina untekumeku** is 'place where cars exist spread out'. This implies that inanimate objects 'live' there in the same way as the people live in their home village. The ideas of stillness or inactivity (parked) and 'to live' both seem involved in this extension.

(33) karundzhina untekumeku
karu -dzhina unte -kub -eku
car -PL live -UnsAg -LN
'bus terminal'

When the location of existence is a known site, **gu-**[3] 'definite location' (DefLoc) is prefixed to **te** 'upright'. The resultant word, **kuté** (**gu-** 'DefLoc' + **te** 'upright'), also has the connotation 'to be alive' or 'to live'.

(34) manzhe kunsi kutengwi nukú?
ma -zhe kunsi gute -gui nuk -ú
2s -Poss dog live -still be -Q
'Is your dog still alive?'

In the following example, the extension is complete in that **kuté** means 'to be alive' with no indication of a particular orientation. It still could be referring to the metaphor of 'health and life are up; sickness and death are down' in the aspect of being 'alive' (smoldering), but no element of verticality is evident here. There is problably a related metaphor such as 'living is energy emitting (working)' that applies here.

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[3]/g/ devoices when the stem begins with a voiceless consonant.

(35) gie unguzi kutengwi
gie unguzi gute -gui
fire a.little live -still
'The fire still has some live (coals).' (still smoldering)

Kuté 'to live' has been conventionalized to mean 'to be seated' because one sits where one lives. A common response to one of the greetings in Damana is either 'I'm standing' or 'I'm sitting'. When **kuté** is used, the person is in a seated position. The emphasis is not on verticality but on the emotional state of 'to exist peacefully at home', extending the inactivity aspect of te.

(36) teruaru zhonunka kuté.
terua -ru zha -un -nun -ka kute
man -Top eat -Neg -be -Prtc live
'The man had not eaten, (therefore) was seated.'

A common practice in language is to extend the body's orientation to inanimate objects. Therefore, in Damana, a mountain has a foot, a side, and a head. **katena** (**ku-** 'at' + **a-** 'in' + **te** 'upright' + **-na** 'be') in Damana means 'side' of a mountain, while **tena** (**te** 'upright' + **-na** 'be') means 'side' of a body. I would suggest that the word for 'side' is derived from **te** '(be) upright'.

(37) mamarongo arukaru katena aruka ni.
mamarongo arug -ka -ru katena arug -ka na -in
Mamarongo ascend -Prtc -Top side ascend -Prtc be -CK
'To go to Mamaronga, one has to go up a side (of the mountain).'

The Wiwa people, living scattered over a mountain range, view life as a journey progressing up a mountain (Hensarling: in preparation). When readers are told to go to the beginning the page, they immediately go to the bottom. When the older leaders are ready to die, they make their final trek up to the top of the mountain to be with the spirits of their ancestors in the snow caps. This mountain analogy of bottom to top can be

viewed as describing the various stages of an activity. All activities have a beginning (at the foot), a middle (at the side) and an end. The middle of a journey would be on the vertical side of the mountain. I would suggest that **-unte** 'continuative' (Cont) aspect, which is comprised of **-un** 'imperfective aspect' (Impf) and **-te**, is derived from **te** 'upright'.

(38) asi unanzhe uragurga nayanunka nunka
asi una -zhe uraga -ru -ka nai -á -nun -ka nun -ka
sister 3s -Poss house-Top -at go -Pfv-be -Prtc be -Prtc

mushinawa nak**unte** nugín
mushinawa nak -unte nuk -u -in
again come -Cont be -Wit -CK

'The older sister had left her house and was once again coming.'

In summary, Table 2 shows how the verticality aspect of **te** has been extended in metaphor in the previous examples. If this verb were a noun class indicator, one would expect the extensions would involve some specific shape of object. What has been extended with various metaphors is not shape, however, but the idea of verticality, a spatial relation.

Following the discussion of each spatial relation verb, a table (like Table 2) is given. Each of these tables consists of three columns. In the first, labeled 'expression', are the uninflected stems in bold print. Below each are highly literal glosses, which are in some cases more etymological than a representation of any actually occurring sense. The actual senses, represented with idiomatic glosses, and including any extended or figurative meanings, are given in the column labeled 'senses'. The third column gives the basis for the extensions.

Table 2 Spatial Relation: te 'be upright' (Verticality)

Expression	Sense	Basis for extension
zhite to be upright on own (feet)	to be standing	general characteristic (verticality) for specific situation (standing)
zite to be careful and upright	to be very still	inactivity of plants
kukate to put teeth in vertically	to bite	verticality of teeth
shate to be with string upright on him	to be tied up	general characteristic (verticality of string) for specific situation (tied up)
ishtekwega one upright object existing upon other upright object	be short (e.g. hair)	generalization of hair being piled vertically on head to mean short (hair)
zhitekwega existing upright on own (feet)	be tall	general characteristic (verticality) for specific situation (tall)
ateshi to cause to be upright inside	to cause to be full	more is up; less is down
unte to be upright at indefinite location	to live	Health and life are up/ vertical; sickness and death are down/horizontal
kuté to be upright at definite location	to live	Health and life are up/ vertical; sickness and death are down/horizontal
	to smolder (e.g. fire)	living is energy emitting
	to be seated	inactivity of plants

-unte to be doing something upright	continuative aspect	activities are like journeys up a mountain; 'upright' is mid-slope

The following figure illustrates the relationships among the various senses of **te** 'upright'. The dotted lines indicate a derivational process which may also include extensions of meaning while the other lines involve only extensions of meaning. Core meanings of the word are in the heavier larger circles. A figure similar to this is provided for each verb discussed. This is patterned somewhat after Taylor's (1989) and Lakoff's (1987) concept of categorization by prototype, except that a schematic representation of the conceptual core of the category is used instead of a central member.

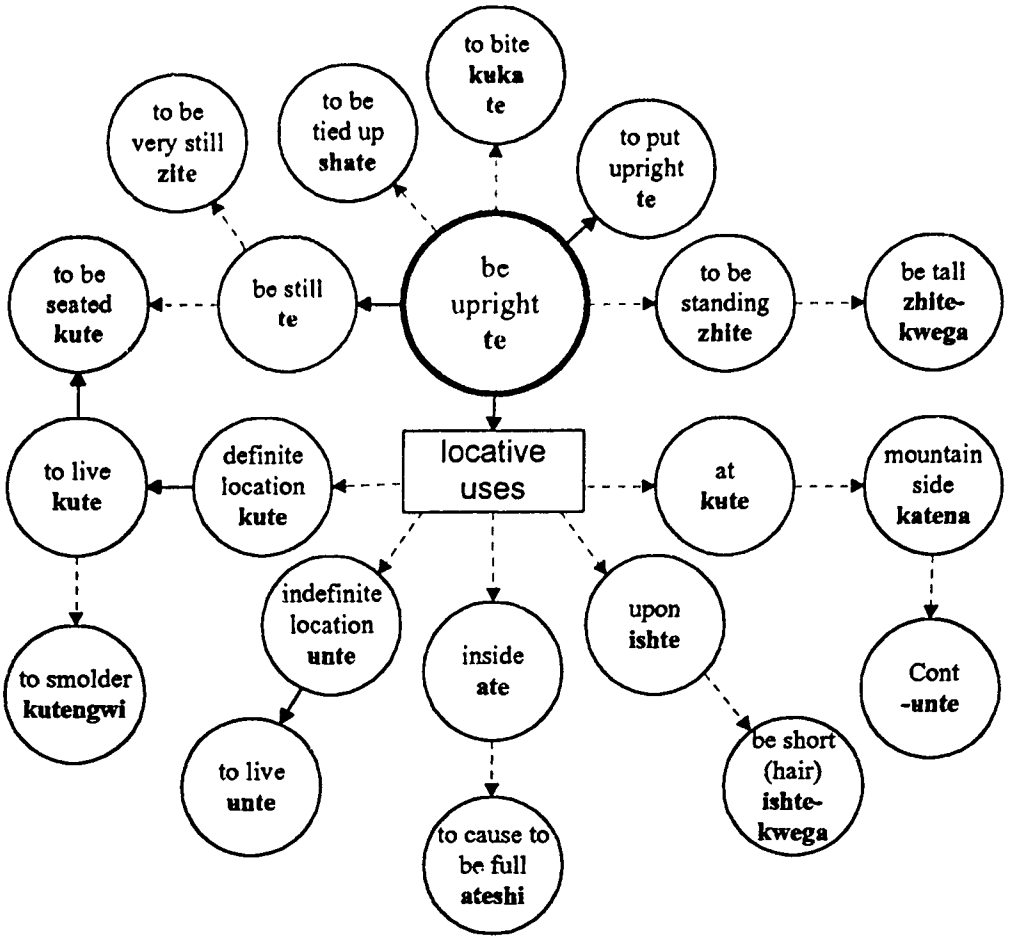

Figure 1 te '(be) upright'

5.2 Gag '(be) horizontal'

Under a noun classification system, **gag** '(be) horizontal' (horiz) would be associated with one-dimensional, 'stick-like' objects. In metaphorical extensions,

however, it is not the stick shape which is extended, but rather the concept of 'horizontal'.

Gag 'horiz' is the complement of **te** 'upright' in several ways. While **te** 'upright' is used for 'to be standing up', **gag** is used for 'to be lying down'. This is structured from the core sense 'to be horizontal' and is a basis for the metaphor 'conscious is up; unconscious is down'.

(39) nukweru utunaru gagá
nuk -kua -i -ru utuna -ru gag -á
be -FP -Ger -Top old -Top horiz -Pfv
'And so the old (woman) was lying down (to go to sleep).'

Utilizing the metaphor 'health and life are up; sickness and death are down', **gag** 'horiz' is used as a component of the concepts 'unconscious', 'dead' or 'buried'.

(40) gwia kunkushina zhinguma wida ukweru ungina
guia kunkushina zhi- guma uid -a u -kua -i -ru ungina
brother Kunkushina Poss- son die -Pfv do -FP -Ger -Top stone

munganamba iringagá kunguma sikarga
munguna -ba i- dzhi- gag -a kunguma sika -ru -ka
above -Obl upon-3pS- horiz -Pfv earth below -Top -at
'The son of the older brother Kunkushina died, and they laid him stretched out over a rock (buried him) below the ground (in a cave).'

The concept 'to resuscitate' or 'to bring back to life' is built on **gag** 'horiz'. The verb **nungaga** (**gag** 'horiz' + **nun-** 'SO' (Shared Orientation)) used with 'spirit', **uruama**, literally means 'to put spirit horizontally with same orientation (as body)'. The use of **nun-** indicates that both the referent and the relatum have the same orientation. This has cultural significance because in order to revive someone, the **mama** (religious leader) levitates himself in a horizontal position above the unconscious person. The purpose of this, as I understand it, is for the **mama** to become one with the patient's spirit. This is extended using means for end.

(41) Moyawi dzhiraga ga awanunka nunkwa mushinawa
Moyaui dzhira -ga ga u -a -nun -ka nun -kua mushinaua
Moyaui water -Erg eat/Pfv do -Pfv-be -Prtc be -FP again

uruama nungagá
uruama nun- gag -á
spirit SO- horiz -Pfv

'Moyawi had drowned, but (he) brought him back to life again.'
(Literally: 'The water had eaten Moyawi, but he (the mama) put his spirit horizontal (same orientation, like that of the patient, and the patient again lived').

The concept 'to be tight' is derived from **gag**. The verb in example (42) is based on the spatial relation formed when a 'drawstring' is tight around the waist forming a horizontal/level plane. **Gag** is negativized and means 'not tight' (not horizontal).

(42) pertshina munkusara ingagún.
pertshina munkusara i- gag -ún
drawstring clothes upon-horiz -Neg

'The drawstring on his clothes is not pulled tight.'

(43) gwiandzhinaga shimbun gu[4] angazhi munkusara
guia -dzhina -ga shimbun gu a- gag -i munkusara
brother-PL -Erg rope effort in-horiz -Ger clothes

imbishunkamba
i- bi -shi -unka -ba
upon- hung -Caus -Fut -Obl

'The older brothers stretched tight the rope over which the clothes would be hung.'

In a further extension, 'tightness' is important and **gag** is not required to adhere to any spatial features such as horizontal or level, let alone shape or rigidity. In the flollowing examples, **gag** simply means 'tight', regardless of orientation, shape or material of object being pulled.

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[4]**gu** is an onomatopoeic word associated with activities that require effort.

(44) bu gu angazhi awanugin.
bu gu a- gag -i u -a -nuk -u -in
hammock effort in-horiz -Ger do -Pfv -be -Wit -CK
'He strung the hammock tight.'

The following example reflects the Wiwa's concept of having goosebumps, considered to be small pieces of fear which are stretched over the body. The concept is structured by an extension of **gag** 'horiz' to mean 'tight'. The sensation of tightness of the skin is what is being categorized here. Note that this is now applied to a two-dimensional surface—the original one-dimensional shape is completely lost.

(45) zeburu angaga namusin dumaga tukwashka.
ze -buru a- gag na -mut -in dumaga tu -kua -ashka
fear -Dim in-horiz 1sIO-enter -CK puma see -FP -when
'I had goosebumps, I was frightened when I saw the puma.'

In metaphorical extensions with **gag**, the concept of 'horizontal' is extended in other ways. 'Balance' is another primitive schema like 'up-down' (Lakoff and Johnson 1980). Horizontal is closely related to 'balance' in Wiwa culture. Bridges are made by balancing logs across streams with the ideal being that the log forms a nice horizontal plane. Hoppe (1982) states that 'balance' is one of the most important concepts (in a figurative sense) in the Wiwa's world view. Example (46) is extracted from a story relating how mankind is responsible for maintaining the balanced condition of the world. The Wiwa believe that the egg-shaped world is balanced on two poles by their ancestors, and by their correct living and sacrifices, this balance is maintained. **Gag** is used, even though the world is not 'stick-like'.

(46) zudúa zhingagúni
zudúa zhi- gaga -úni
well OblR- horiz -NegPfv

'(From then on mother earth) was not level or balanced (and therefore we experience earthquakes).'

(47) ungina mungunaka kun ingaga ushi.
ungina munguna -ka kun i- gag u -shi
rock above -at wood upon-horiz do -Caus

'Balance the log on top of that rock.'

The concept of balance is extended to mean 'to trust'. 'To balance your spirit on someone else' is to put your spirit in their control, thereby trusting them. Here, clearly, it is the spatial relationship, not the shape, which is the basis of the extension.

(48) ruama sigandzhinaga anzhabumba uruama
ruama siga -dzhina -ga a- zhi- abu -ba uruama
spirit progeny -PL -Erg 3s- Poss- mother -Obl spirit

ingaga uka ni
i- gag -a u -ka na -in
upon- horiz -Pfv do -Prtc be -CK

'Children always trust their mother.' (Literally: 'Offspring always put their spirit over their mother.')

Table 3 summarizes the 'horizontal' aspect of **gag** as it has been extended in metaphor. In the use of metaphor, it is the spatial relation 'horizontal' that has been extended and conventionalized in the formation of abstract concepts.

Table 3 Spatial Relation: gag '(be) horizontal'

Expression	Sense	Basis for extension
gag to be horizontal	to be lying down	general characteristic (horizontal) for specific situation (lying)
ingag to put horizontally upon	to bury (in cave)	health and life are up/ vertical; sickness and death are down/horizontal
	to balance	level/balanced is horizontal
	to trust	to trust is to balance one's spirit on another person
nungag to put object (spirit) horizontally over another horizontal object	to resuscitate	means (placing body/spirit horizontal) for end (resuscitate)
ingagún to be not horizontal upon something	to be slack, loose	tight is horizontal
angag to put inside horizontally	to stretch/pull tight	tight is horizontal
to be inside horizontally	goosebumps	feeling of tightness in skin when having goosebumps
zhingaguni to be not horizontal on own	to be not balanced	level/balanced is horizontal

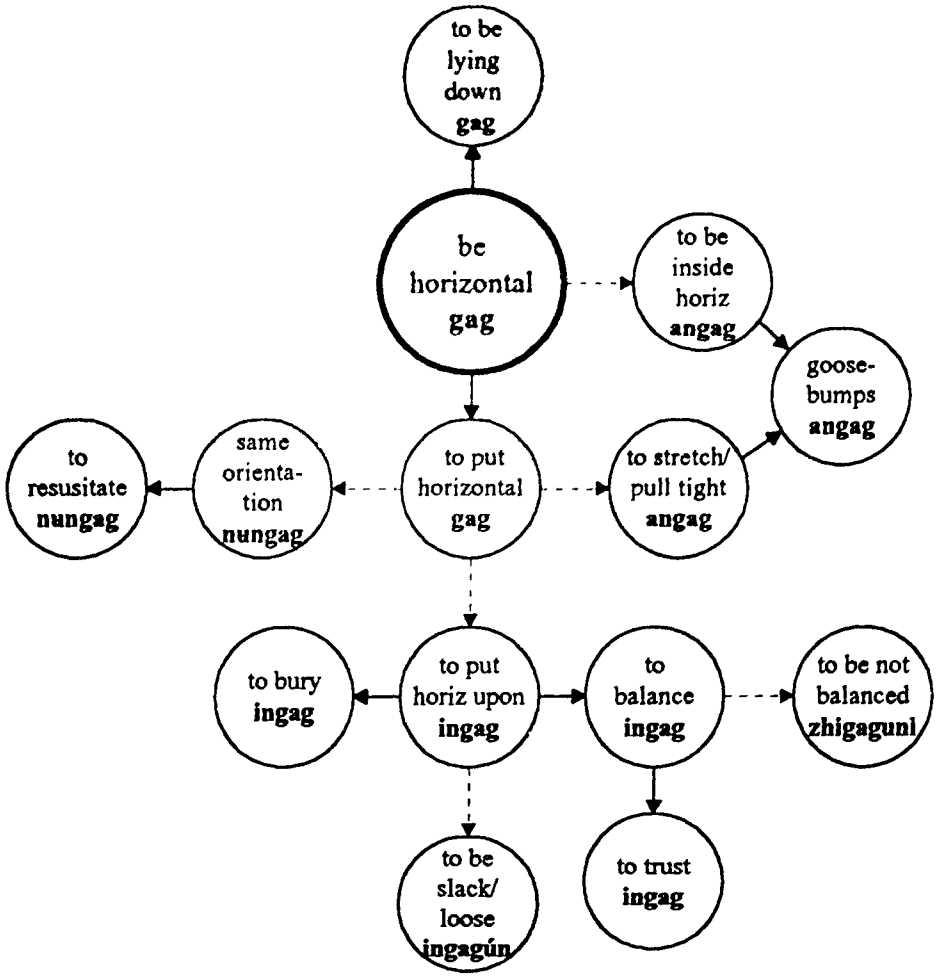

Figure 2 gag '(be) horizontal'

5.3 Pa '(be) flat'

Pa '(be) flat' is often associated with two dimensional 'tortilla-like' objects. Prototyically it denotes the spatial relation of one plane over another. In extensions, it is also used when covering a container. The opening of the container is viewed as a plane. The relationship in focus here is not the shape of the object being used to cover the

container, but rather the formation of a boundary over the container. The projection of a boundary is one of the basic spatial schemas (Lakoff and Johnson 1980).

(49) Sindigaru buku guma apa awanunka
Sindi -ga -ru buku gum. a- pa -á u -a -nun -ka
Cindy -Erg -Top pot opening in-flat-Pfv do-Pfv-be -Prtc

ni goruma musi ukwame
na -in goruma mut -i ukwame
be -CK fly enter -Ger prevent

'Cindy had covered the pot to prevent flies from entering it.'

This sense is extended to mean 'to take hold of', as a type of covering using the hands. This sense uses the form **pan** (**pa** 'flat' + **-n** 'Actvzr').

(50) ra zhinzhoma gaunwa awangashka lapi kogunamba
ra zhinzhoma gau -unwa u -unga -ashka lapi koguna -ba
1s book make -Imn do -1sFut -when pencil hand -Obl

apana awangemundzhi zhinzhoma gauga ni.
a- pan -a u -unga -i -mundzhi zhinzhoma gau -uga na-in
in-hold -Pfv do -1sFut -Ger -from book make -1sPrtc be-CK

'When I start to write letters, I take hold of a pencil with my hand and afterwards I write.'

In example (51), the prototypical sense of 'to cover' is not present; only the part that is taken hold of is covered by the hand. With indirect object agreement,[5] **apan** means 'to take hold of something that is part of someone else'. This is normally used to indicate taking hold of an arm or neck where the fingers can encircle, and is an example of the part representing the whole.

[5]Indirect object marking is used at times in Damana to indicate possession. These could probably be viewed as 'ethical datives' (Tuggy 1980).

(51) anzhinguma balonkwarga mundzhi
a- zhi- guma balonkua -ru -ka mundzhi
3s- Poss- son balcony -Top -at from

ashengwemundzhiru anzhabu apana.
a- shen -kua -i -mundzhi -ru a- zhi- abu a- pan -a
3sIO- fall -FP -Ger -from -Top 3s- Poss- mother 3sIO- hold -Pfv

'Her son, after jumping from the loft, took hold of his mother.'

The sense 'to take hold of' is extended further to mean 'to receive'. In this extension, the manner of obtaining the item in question is being used to represent the end result of receiving the object. In example (49), **ipan** (**i-** 'upon' + **pa** 'flat' + **-n** 'Actvzr') means 'to receive', or more literally, 'to take hold of (cover with hands)'.

(52) nugwia raga Lorenzonzhe ipana ukugín.
nu- gui -a ra -ga Lorenzo -zhe ipan -a u -kug -in
1sDO- tell -Pfv 1s -Erg Lorenzo -Poss receive -Pfv do -1sFP -CK

'He told me that he had received (a letter) from Larry.' (Literally: 'Told me, "I had hold of one of Larry's."')

Besides receiving concrete objects, **ipan** can also be used to receive information. Information is treated as a concrete object, but there is no sense of covering with the hands.

(53) ragaru gegurga inzhina
ra -ga -ru gega -ru -ka inzhina
1s -Erg -Top Sierra.Nevada -Top -at how

zhanekunuka dura ipana
zha- nek -un -nuk -ka dura ipan -a
UnsO- make -Impf -be -Prtc message receive -Pfv

awanarga ni
u -a -nan -uga na -in
do -Pfv -be -1sPrtc be -CK

'I have received information about what is happening in the Sierra.'

The object of 'receive' does not have to be flat. In example (54), a concept with no physical shape at all is received. Note that **zhi** '3pS' occurs between **i-** 'upon' and **pan** 'hold' and means that the objects are in the same orientation. In this case, the two objects are understood to be two hands. 'To take hold of' or 'to receive' something with two hands implies a deep commitment.

(54) raru iwa 3 de febrero kunkushina ishpana
ra -ru iua 3 de febrero kunkushina i- zhi- pan -a
1s -Top today 3 of February God upon- 3pS- hold -Pfv

imamba Diana nun
ima -ba Diana nun
this -Obl Diana with.

'On the third of February, I received God (Christ) with (the help) of this Diana.' (Literally: 'I, on the 3 of February, took hold of God with this Diana.')

Ipan is also used to receive people as in the sense of 'to greet' or 'to accept'. The following example uses a negative form with the sense of 'to not accept.' **Dzhi**[6] '3pS' is placed between **i** 'upon' and **pan** 'hold'.

(55) ra shikandzhina kena argwanunkuga
ra shika -dzhina kena arug -a -nun -kuga
1s people -PL to ascend -Pfv-be -1sFP

nusirpanuni suntaru nunkugame
nu- i- dzhi- pan -uni suntaru nun -kuga -ame
1sDO- upon- 3pS- hold -NegPfv outsider be -1sFP -because

'I had gone up to the people (Wiwa), but they did not accept me because I was an outsider.'

It has been shown that **pa** is extended to indicate 'to be covered'. To cover the opening is to close a container. Example (56) illustrates that to close a glass is to put its open side face down over another surface.

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[6]**Dzhi-** '3pS' in certain environments has a variant form **r-**.

(56) mesamba azhimeta pa
mesa -ba azhimeta pa -á
table -Obl glass flat -Pfv
'He put the glass on the table.' (opening flat on the table)

If a container is closed, the openings through which objects can enter is covered. Using the metaphor 'the body is a container', 'to close the body' is to cover the face since food, images and smells all enter the body through openings in the face.

The head, because of its functional prominence, is used to represent the body. This also is a form of metaphor. In example (57), the whole body is floating in the water, but its spatial orientation is face down. What is being extended is the idea of closing an opening, not the placement of a 'tortilla-like object'.

(57) dzhiraka kupá nushín
dzhira -ka ku- pa nuk -in
water -Loc at- flat be -CK
'The person is floating face down.' (not seen by speaker)

'To have one's mouth closed' is structured from **pa** 'flat' meaning literally 'to have the container covered'. In this situation, there is definitely no 'flat' object involved in the extension.

(58) kuká pa kuté
kuká pa gu- te
mouth flat DefLoc- upright
'He is sitting and won't talk.' (Literally: 'He is seated with a closed mouth.')

The Wiwa view the world as a container with the sky as the opening. As a container, the world can be open and closed. To be cloudy is to have the opening of the world sealed or closed.

(59) moya guma apánunka
moia guma a- pa -á -nun -ka
cloud opening in-flat -Pfv-be -Prtc
'It is cloudy.' (Literally: 'Clouds have closed the opening to the world.')

As mentioned in Section 5.1, activities in Damana are viewed as journeys up a mountain. The beginning of any activity is seen (metaphorically) as being 'horizontal' at the base or 'foot' of a mountain. **Pa** 'flat', represents the plain before starting up the slope of a mountain. I suggest that **pa** '(be) flat' combines with imperfective aspect **-un** to derive inceptive aspect **-umpan** (**-un** 'Impf' + **pa** 'flat' + **-n** 'Actvzr').

(60) unzhina kunzhazhi dumegumumpana
unzhina ku- zhan -i duma -ai -kub -unpan -a
how Ben- be -Ger crazy -Advzr -UnsAg -Incp -Pfv
'This is how play began.'

In summary, **pa** '(be) flat', when extended in metaphor, primarily utilizes the ideas of 'to be covered' or 'to be closed' rather than expanding on the flatness of objects. Table 4 summarizes the above examples:

Table 4 Spatial Relation: pa '(be) flat' (Projecting a boundary)

Expression	Sense	Basis for extension
apa to put flat inside	to cover	project a boundary
apan to cover in hand	to take hold of	means (cover with hand) for end (take hold)
ipan to cover with hand on top	to receive (object) to receive (info)	means (cover with hand) for end (receive) information as object
ishpan to cover with hands on top	to receive (Christ)	abstract concept as object
ipanuni to not cover with hands on top	to not accept	means (not to cover with hands) for end (reject)
kupá to be covered in/at	to be covered (face)	body as a container
kuka pa covered mouth	closed mouth	body as a container
apanunka be covered inside	be cloudy	world as a container
-umpan activity occurring where it's flat	inceptive aspect	activities are like journeys up a mountain; 'flat' is 'at the point of beginning an ascent'

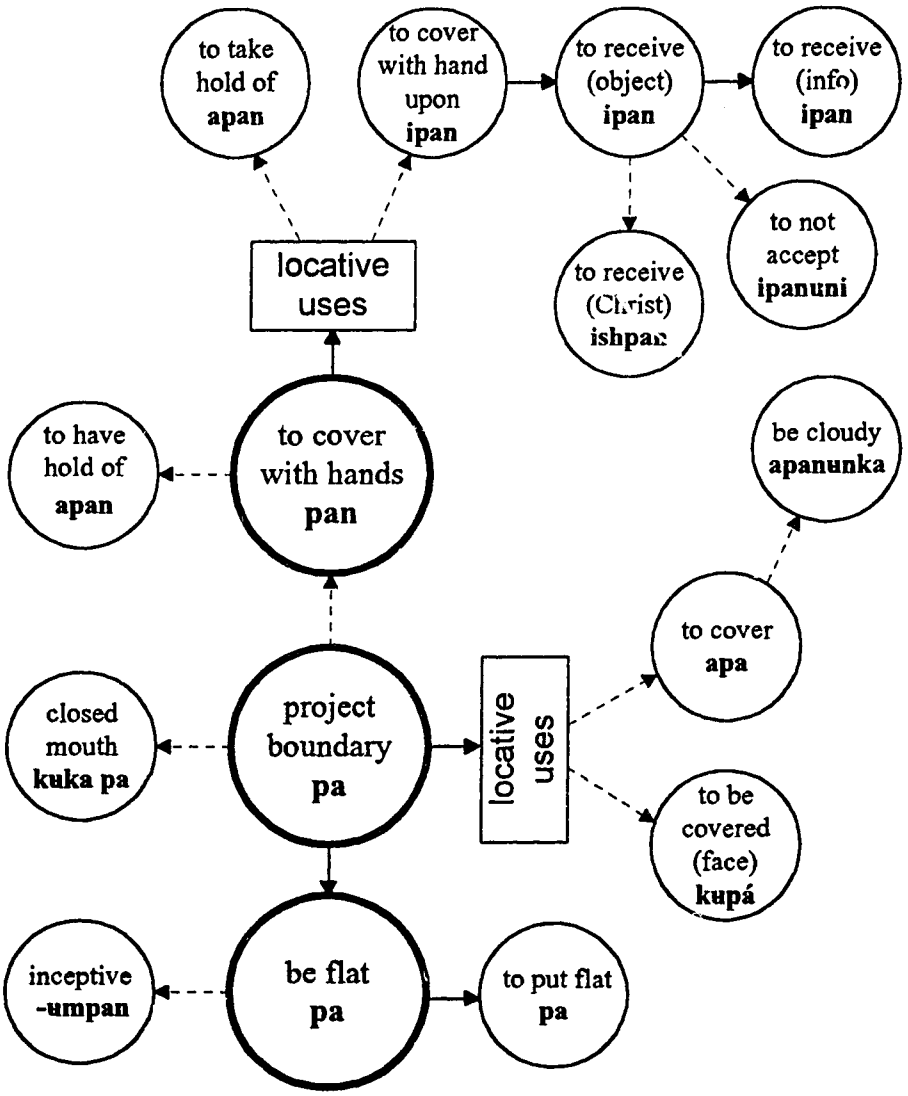

Figure 3 pa '(be) flat'

5.4 Du '(be) without orientation'

Du '(be) without orientation' is associated with 'fabric-like' objects in prototypical orientation and has no fixed orientation in spatial terms. This lack of definite orientation is extended metaphorically to mean 'undeveloped' or 'without definite shape'. It can be used to describe a fetus or a very young animal before it has

achieved a readily recognizable form. A reduplicated form **undundu** (**un-** 'IndefLoc' + **du** 'WO' + **un-** 'IndefLoc' + **du** 'WO') means 'very young' or 'undeveloped'. Reduplication in (61) probably serves to stress the overall shapelessness or lack of form.

(61) somundundu
soma -undundu
baby -undeveloped
'fetus'

(62) misiru undundungwi kwagumanunka kuma ná
misi-ru undundu -gui kuagub-a -nun -ka kuma na -á
cat -Top undeveloped -still born -Pfv-be -Prtc InfW be -Pfv
'The kittens were born too soon.'

The sense of formlessness is extended to indicate the condition of being 'reborn' in a figurative sense. This is a common concept in the culture referring to a complete change within a person.

(63) abuga zhingwiru undunduhun hinakwaga kuma
abu -ga zhingui -ru undundu -hun hin -akwa -ka kuma
mother-Erg the.same-Top undeveloped -like grow -Obg -Prtc InfW
kekwá
kai -kuá
say -FP
'The mother told him that he would have to be reborn and grow again.'
(Literally: 'This same mother told him that he would have to become formless and grow again.')

Similarily, **du** 'WO' can be used with **-shi** 'Caus' to mean 'to cause to break'; literally 'to cause to lose form'.

(64) ranzhe menaga shimbunkwanzhe tera durushi
ra -zhe mena -ga shimbunkua -zhe tera du- du -shi -i
1s -Poss woman-Erg chicken -Poss egg WO- WO -Caus -Ger

awanugín inkishushega
u -a -nuk -ɯ -in ɯnkɯ- i- shush -ega
do -Pfv-be -Wit -CK PossR- upon- fry -Pur

'My wife was breaking the eggs in order to fry them.'

'To decay' and 'to fall apart' both involve loss of orientation or form. Example (65) utilizes the form **duma** (**du** 'WO + **-ma** 'ON') which literally means 'that which has lost form/order'.[7] **Kunduma** is literally 'rotten wood', but because it is a prototypical example of a structured substance falling apart, it has come to mean 'rotten' in a generic sense.

(65) kɯn kɯnduma
kɯn kɯn- du -ma
wood wood- WO -ON

'rotten wood'

(66) ranzhiduganzhe suzu kɯma kɯnduma neka awá.
ra- zhi- duga -zhe suzu kɯma kɯnduma nek -ka u -á
1s- Poss- brother-Poss bag InfW rotten become -Prtc do -Pfv

'My brother's bag has become rotten.'

Du is often used to describe something that goes against established norms. A figurative extension of this is the sense 'to be crazy'. Anyone who knows the importance of adhering to cultural norms and yet does not follow them is considered 'crazy'. The metaphorical extension appears to be that such people serve no useful purpose in the society—they are without a social 'orientation'; or represent a 'decomposition' of cultural values. The form **duma** (**du** 'WO' + **-ma** 'ON') means 'crazy' in Damana.

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[7]There is a strong cultural value 'orientation and form are good; lack of orientation and formlessness are bad'.

(67) ranzhingwiaru ɯganzana awashka duma neshi
ra -zhi- guia -ru ɯganzana u -ashka duma nek -i
1s- Poss- brother-Top snarl/growl do -when crazy become -Ger

ukaye neka ni
u -ka -ie nek -ka na -in
do -Prtc -like become -Prtc be -CK

'My older brother when he snarls and growls is becoming like he is crazy.'

Talking in one's sleep is not seen as constructive or serving any purpose.

(68) ra kɯma kɯwa awangashka duma neshi augaye.
ra kɯma kɯua u -ɯnga -ashka duma nek -i u -uga -ie
1s InfW sleep do -1sFut -when crazy become -Ger do -1sPrtc -like

'When I talk in my sleep, I become like I am crazy.'

'To play' goes against structured norms, serves no function, and is derived from **du**. In Wiwa society, play is not allowed. **Kub-** 'UnsAg' is used with **duma** 'that which has lost form' because it would be against common sense to actively try to 'lose form'. The form **dumegub** (**du** 'WO' + **-ma** 'ON' + **-ai** 'Advzr' + **-n** 'Actvzr' + **-kub** 'UnsAg') means 'to play'.

(69) Jason zhinzhoma tshwí aunugín Jeff
Jason zhinzhoma tu -i u -ɯn -nuk -ɯ -in Jeff
Jason book see -Ger do -Impf-be -Wit -CK Jeff

dumegubi aunugín
dumegub -i u -ɯn -nuk -ɯ -in
play -Ger do -Impf-be -Wit -CK

'Jason is reading (book seeing); Jeff is playing.'

Du 'WO' is also extended to mean 'to destroy'. This is another example of losing form. The form **durtshi** (**du** 'WO'+ **du** 'WO' + **-shi** 'Caus') means 'to beat to pieces'. The implication with this verb is that form is being completely lost. This can be applied to animate as well as inanimate objects and is not limited to 'fabric-like' objects.

In example (70), **zi-** 'careful' implies that the fruit was beaten enough to wrinkle (to make it soft enough to eat) but wasn't smashed and ruined.

(70) ranzhingumaga mangu antukaya nunka gaiga
ra- zhi- guma -ga mangu antukaya nun -ka ga -ega
1s- Poss- son -Erg mango not.ripe be -Prtc eat -Pur

zindurtshi awanugín.
zi- durtsh -i u -un -nuk -u -in
careful- beat -Ger do -Impf-be -Wit -CK

'My son in order to eat the green mango, is beating it (to soften it up).'

Du 'WO' is also extended to the aging process which is seen as the body losing form. Losing form is evidenced by the skin becoming wrinkled. **Zindurkub** (**zi-** 'careful' + **du** 'WO' + **du** 'WO' + **-kub** 'UnsAg') means 'to wrinkle with age'.

(71) ranzhe menanzhe uburataru zindurkumanunka
ra -zhe mena -zhe uburata -ru zindurkub -a -nun -ka
1s -Poss woman-Poss cheek -Top wrinkle -Pfv-be -Prtc

ni utuna neshi
na -in utuna nek -i
be -CK old become -Ger

'My wife's face is wrinkled, she is becoming old.'

In example (72), the house once had a definite spatial orientation and form but is now losing both form and orientation. The use of **-kub** 'UnsAg' conveys that the formless nature of the house is the result of age, not the result of the actions of an agent.

(72) uraga zara dwakumunté nugín.
uraga zara du -kub -unte nuk -u -in
house old WO -UnsAg -Cont be -Wit -CK

'The old house is in the process of falling down.' (Literally: 'losing form')

Du is also extended using the metaphor 'the body is a container' to mean 'to be full' or ' to be congested'. The connection seems to be the lack of inherent shape of the

liquid mass inside. This concept can be used for a stopped up nose (see below), or a container full of honey.

(73) ranzhe ʉruama sigaru ʉnʉmʉna anduakubi
ra -zhe ʉruama siga -ru ʉnʉmʉna a- du -kub -i
1s -Poss spirit progeny -Top congested in- WO -UnsAg -Ger

awanugín ʉnʉmʉna amʉsi nugame
u -ʉn -nuk -ʉ -in ʉnʉmʉna a- mʉt -i nuk -ame
do -Impf-be -Wit -CK congested 3sIO- enter -Ger be -because

'My child is congested (thick stuff running down) because he has the flu.'

In Table 5 the metaphors and extensions of **du** 'WO' are summarized. The extended meanings are based on 'to lack form'. In this sense, **du** is distinctive because extensions are based on 'formlessness' which may be considered to be a property of the noun. Nevertheless, it would be difficult to explain how **du** could classify a 'noun class' since all shapes of objects can be used with this verb in the various extensions. Practically all of the extensions have to do with the pervasive cultural norm that form/orientation is equivalent to 'usefulness'.

Table 5 Spatial Relation: du '(be) without orientation'

Expression	Sense	Basis for extension
undundu be without form	be undeveloped	lack of form/orientation
durushi to cause to lose form	to break	lose form/orientation
kunduma wood that has lost form	rotten	form/function is good; lack of form/function is bad
duma that which has lost form/function	be crazy	form/function is good; lack of form/function is bad
dumegub to exist without form/function	to play	form/function is good; lack of form/function is bad
zindurtshi to carefully cause to lose form	to beat (e.g. fruit)	formless is soft/flexible
zindurkub to exist losing form slowly	to age (wrinkle)	form/function is good; lack of form/function is bad
dwakub to exist with lost form	to disintegrate	form/function is good; lack of form/function is bad
andwakub to exist inside without form	to be congested	body is a container

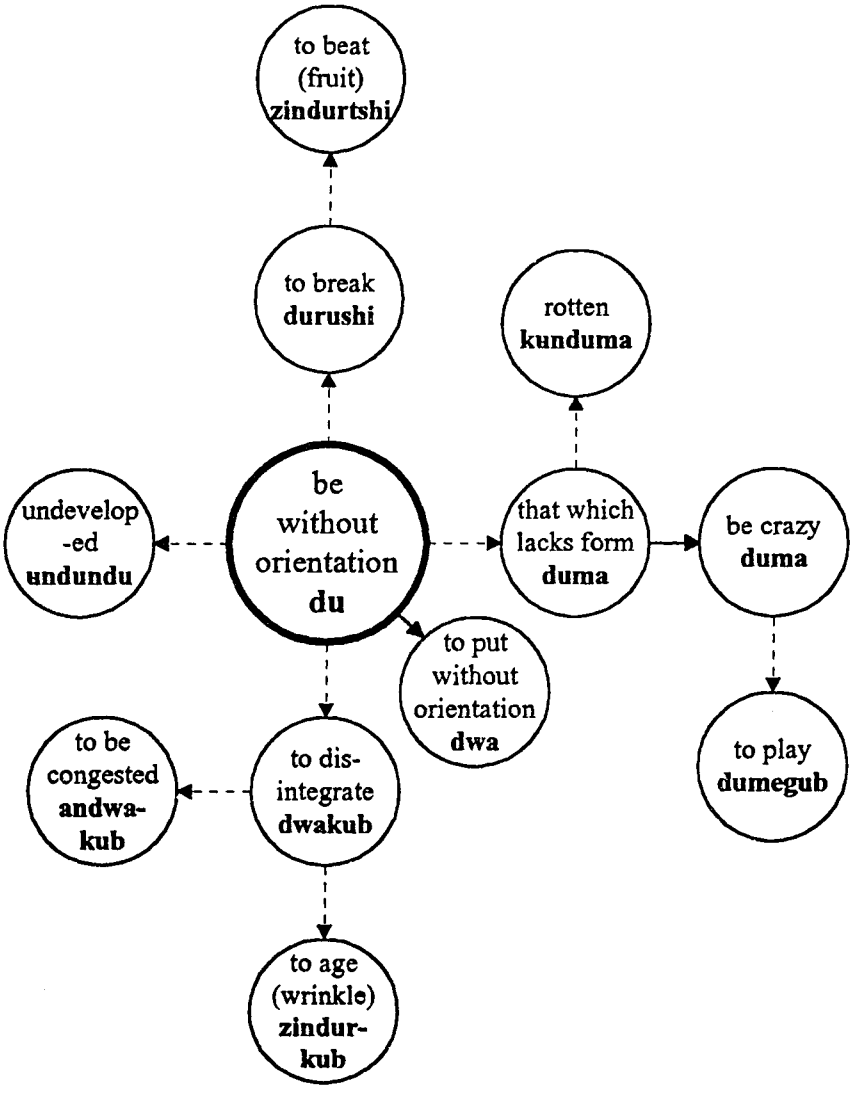

Figure 4 du '(be) without orientation'

5.5 Zhu '(be) distributed'

Zhu '(be) distributed' (distr) is extended not from any inherent shape but from the spatial relation 'to be distributed'. This concept is extended in the description of a spotted dog. In the following example, **anzhunuka,** literally means 'many things being distributed all over inside'.

(74) ranzhe uragaka nabionkura gunukaru
ra -zhe uraga -ka nabionkura gu- nuk -ka -ru
1s -Poss house -at dog DefLoc- be -Prtc -Top

anzhunuka nukunuŋka ni.
a- zhu -nuk -ka nu- ku- nun -ka na -in
in-distr -be -Prtc 1sDO- Ben- be -Prtc be -CK

'The dog that I have living at my house is spotted.'

The concept of multiple entities distributed over a location, **Rinzhu** (**ri-** 'OblR' + **zhu** 'distr'), leads to the sense 'to live together in a crowded condition'. This literally means 'entities distributed over each other' and is conventionalized to mean 'to be together'.

(75) ranzhe kungumargaru bugwi shiká
ra -zhe kunguma -ru -ka -ru bugui shika
1s -Poss earth -Top -at -Top many people

rinzhunukurga tshikwaga ni.
rinzhu -nuk -ka -ru -ka dzhi- kua -ka na -in
together -be -Prtc -Top -at 3pS- exist -Prtc be -CK

'In my land, there are so many people that they live crowded together.'

Zhu 'distr', when affixed with the locative prefix **i-** 'upon', is typically used for sprinkling salt or sugar.

(76) rema nungu inzhú.
rema nungu i -zhu
meat salt upon-distr/Pfv

'He salted the meat.'

This implies a relationship of 'over', which can be extended using the metaphor 'having control or force is up; being subject to control or force is down'. The one who is in control is, of course, deemed more important. **Inzhu** (**i-** 'upon' + **zhu** 'distr') can mean 'to control' or 'to be in charge' in Damana. Here again, what is being extended is the spatial relationship 'over' and not the shape of mass objects.

(77) umba kunguмaba inzhu nugaki kuа
u -ba kunguma -ba inzhu nuk -aki kuа
here-Obl earth -Obl control be -Lim all

guminshánuнka gwazi.
guminsh-á -nuн -ka guazi
beat -Pfv -be -Prtc Intens

'Here on earth he is over (controls) everything and has defeated everything.'

The following example exploits the sense of 'to be in charge' as an extension of 'to be over'. Interestingly, in example (78), the hen is not over anything in the literal sense.

(78) ranzhe shimbunkwa sindumizhi inzhu naya uwín.
ra -zhe shimbunkua sindumizhi i- zhu nai -a u -in
1s -Poss chicken chicks upon-distr go -Pfv do -CK

'My hen took (her) chicks (that she was in charge of) and left.'

Table 6 summarizes the previous examples:

Table 6 Spatial relation: zhu '(be) distributed'

Expression	Sense	Basis for extension
anzhunuka be distributed inside	be spotted	treating spots as entities
rinzhunukurga entities in a place are distributed all over each other	be crowded	mass as discrete entities
inzhu to distribute over top of	to control	to be over represents to be in control
to be distributed over top of	to be in charge	to be over represents to be in control

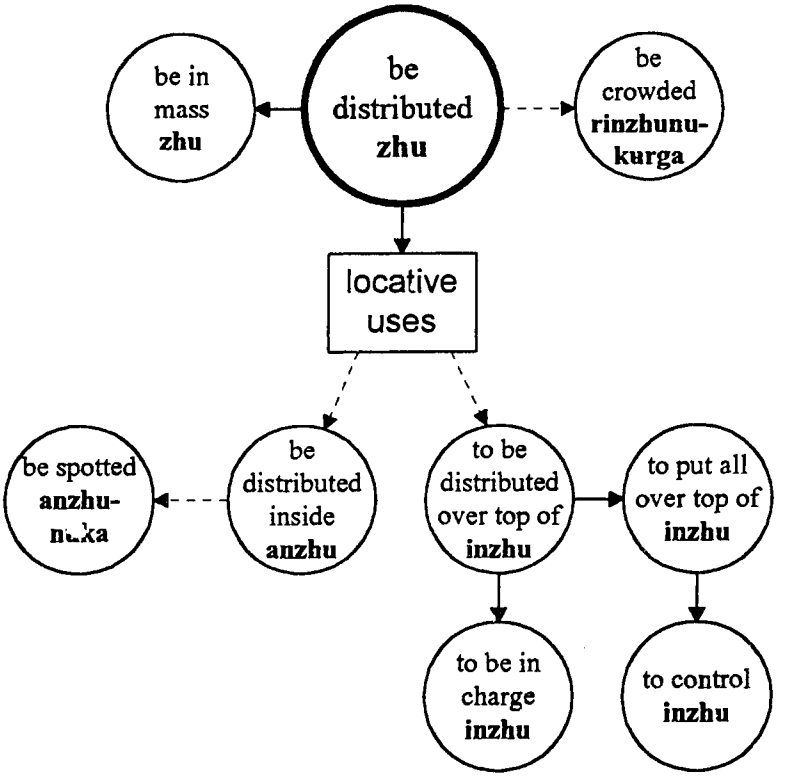

Figure 5 zhu '(be) distributed'

This chapter has shown that the verbs in Table 1 use a spatial orientation to extend in metaphor. Verticality (**te**), horizontal (**gag**), covered/closed (**pa**), and distributed (**zhu**) are the spatial relations and orientations that are central in extensions using these verbs. **Du** is a possible exception in that it is a nominal quality of formlessness that is extended; however, I maintain that **du** can not define a noun class because nouns of all shapes can lose their form and be used with this verb. Although the verbs in this chapter are the clearest cases of verbs in Damana that could appear to correspond to shape, the semantic analysis illustrates that the verbs categorize aspects of events and states (e.g. spatial relations and orientations) rather than inherent properties of objects. The categories created by the verbs and illustrated with the figures have as their core sense a spatial relation. Assuming that the core sense, that which is extended in

metaphor, captures what is encoded in the verb, then it is an orientation or spatial relation, not shape, at its core. Shape is relevant only as it corresponds to the respective orientations. In Chapter 6 other verbs are presented for which an associated shape is not readily assigned, however, they exhibit similar extensions and encode spatial relations.

CHAPTER 6
OTHER SPATIAL RELATION VERBS AND THEIR METAPHORICAL EXTENSIONS

This section illustrates that spatial relations and their extensions are not an exclusive property of the so called noun class verbs in Chapter 5, but rather they comprise just a small part of an overall strategy in the language of encoding spatial relations in the verbal system. This chapter further supports Mithun (1989) by showing that what these verbs categorize are verbal qualities such as spatial relationships in events and states rather than shapes or inherent properties of nouns.

In Damana, there are other verbs that describe other spatial relations, yet their lexical form is generally independent of an object's shape. They, therefore, cannot be associated with any nominal classification system. These verbs are used freely in metaphorical extensions in ways similar to the 'noun class' verbs. I claim that the two sets of verbs together form a natural group that expresses spatial relations. Some of these verbs are: **yu** '(be) inserted', **bi** '(be) hung arched', **soz** '(be) snagged', **we** '(be) apart', **ma** '(be) wrapped', and **pe** '(be) open'.

6.1 Yu '(be) inserted'

In Chapter 2, I mentioned that analyzing spatial verbs as part of a noun class system resulted in classes like 'things with holders' in Ika. The Damana verb **yu** '(be) inserted' generally expresses the spatial relation of 'to be down in' and is comparable to **zhu** in Ika, which Frank (1990) claims is used for 'things with holders'. Examples (79) and (80) illustrate this. Prefixed with **zhi-** 'OblR' and the causative suffix **-shi, yu** 'be inserted' is used for the action of inserting ones own feet into shoes or legs into pants. The 'things with holders' in Frank's analysis would be pants and shoes.

(79) ra ksokwa zhiyushi awanukún.
ra ksokwa zhi- iu[1] -shi -i u -ʉn -nuk -ug
I shoe OblR- inserted -Caus -Ger do -Impf -be -1sS

'I was putting my shoes on.' (Literally: 'I was causing myself to be inserted into the shoes.')

(80) ʉná kʉrasuna zhiyushi awanugín.
ʉná kʉrasuna zhi- iu -shi -i u -ʉn -nuk -ʉ -in
he pants OblR- inserted -Caus -Ger do -Impf -be -Wit -CK

'He was putting on his pants.'

However, **yu** can be used with any object to mean 'be inserted', not just those that prototypically have holders. In fact, it is often associated with one-dimensional objects, which makes two verbs that could 'classify' that shape, (the other one being **gag** '(be) horizontal'). Example (81) shows that **yu** is also used for putting on a ring.[2]

(81) ra anillo nuyushi awanukún.
ra anillo na- iu -shi -i u -ʉn -nuk -ug
1s ring 1sIO- inserted -Caus -Ger do -Impf -be -1sS

'I was putting my ring on.' (Literally: 'I was causing the ring to be inserted to/on me.')

In stative uses, when something has been inserted, what is typically expressed is the spatial relation of 'down in'. Added to this are connotations that what has been inserted is under or inside something else, with part of the inserted item sticking out. If something is inserted and part is not showing, there are other verbs that are then used to mean 'be in'. **Yu** is used to describe the situation resulting from putting a pencil in the hair to hold it, as in (82).

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[1]Although the analysis of the phonology has not been finalized, there are clear cases of /i/ and /u/ going to [y] and [w] respectively, and therefore I assume all surface [y]'s and [w]'s are underlying /i/'s and /u/'s.

[2]It appears that items that go on the body and encircle it, such as a ring, a watch, or a blanket, are referenced with indirect object agreement to probably denote possession while items such as hats, shoes, and clothes are referenced with **zhi-** 'oblique reflexive' (OblR).

(82) lapi shamunkumba miyú awamunugín.
lapi shamunku-ba mi- iu u -un -mu -nuk -u -in
pencil head -Obl 2sIO-inserted/Pfv do -Impf -2sS -be -Wit -CK

'You put your pencil in your hair.' (Literally: 'You have inserted your pencil in your hair.')

Because glasses have parts that can 'be inserted' under the hair and over the ears, **yu** is used to describe wearing glasses.[3]

(83) ranzhe umaru zudua nukundununnunka
ra -zhe uma -ru zudua nu- ku- dun -un -nun -ka
1s -Poss eye -Top well 1sDO- Ben- serve -Neg -be -Prtc

name kuma anteojo niunuka ni.
na -ame kuma anteojo nu- i- iu -nuk -ka na -in
be -because InfW glasses 1sDO- upon- inserted-be -Prtc be -CK

'Because I do not see well, I wear glasses.'

In example (84), **yu** '(be) inserted' could be glossed as 'be wedged under' as it is describing the position of the stick. The concepts 'down in', 'under', 'part hidden' and 'part sticking out' are all evident.

(84) ukwémundzhi kunejuga ungina kun **yu**
u -kua -i -mundzhi kuneju -ga ungina kun iu
do -FP -Ger -from rabbit -Erg rock wood inserted

yuntshá kuma ukwá
iun -shi -á kuma u -kuá
go.down -Caus -Pfv InfW do -FP

'After the rabbit had inserted the stick under the rock, (he) made it (the rock) go down.'

Yu is used in cases where the object being 'inserted' will not fit completely inside the referenced container. In (85), the objects put inside the bag stuck out the top.

---

[3]If the person would refer to wearing glasses like, 'having glasses on my face', **pa** '(be) flat' would be used to convey the sense of 'cover eyes'.

(85) suzumba kun kuyu kayaru nekurzhi.
suzu -ba kun ku- iu kaia -ru ne -kuzhi
bag -Obl wood at- inserted after-top go -Hor
'After the wood is in the bag, let's go.'

This connotation of 'to be in but not completely out of sight' is exploited in example (86) indicating that the wood put on the fire was big enough that the fire or the flames did not engulf it.

(86) giemba kun kayu murangwazi zhakonega.
gie -ba kun ku- a- iu mura -guazi zha- kon -ega
fire -Obl wood at- in-inserted/Pfv quickly -Intens UnsO- cook -Pur
'He put the big wood in the fire to cook the food very quickly.'

The spatial relation 'to be in but not completely out of sight' is common in the culture. Bag-like objects are used to carry everything, even very young children. The most common use of **yu** is with a **dumburu** (a dried gourd used to store the lime needed in chewing coca leaves). Men always carry a **dumburu,** and when it is not in use, it can be seen sticking up out of their bag.

(87) manzhe dwadumba dumburu kuyu ushí
ma -zhe duadu -ba dumburu ku- iu u -shi
2s -Poss bag -Obl gourd at- inserted do -caus
'Put your gourd inside your bag!'

(88) shikaga dwadumba dumburu kayu naya
shika -ga duadu -ba dumburu ku- a- iu nai -a
person -Erg bag -Obl gourd at- in- inserted go -Pfv
nushín
nuk -in
be -CK
'The person is carrying his dumburu in a bag.'

Because **yu** 'inserted' has an associated direction, when suffixed with **-n** 'Actvzr' it yields the motion verb 'to go down'.

(89) ranzhemaru gegurga mundzhi yuná
ra- zhi- ema -ru gegu -ru -ka mundzhi iun -á
1s- Poss- bro.in.law -Top Sierra -Top -at from go.down -Pfv

kamukerga yum zhanduna inkishanun.
kamuke -ru -ka yum zhanduna unku- ishan -un
plain -Top -at corn seed PossR- buy -Impf

'My brother-in-law came down from the Sierra to the plain to buy seed corn.'

Yu 'inserted' is extended in metaphor on the basis of the spatial relation of 'down in' and the interaction of objects which are located 'down in'. The combination of **ri-** 'OblR', and **-kub** 'UnsAg' extends the sense of 'to be down in' to 'many things existing down in', that is 'to be mixed together'. This implies a container.

(90) raga ingwi uruama siga gumaga ga ukweru
ra -ga ingwi uruama siga guma -ga ga u -kua -i -ru
1s -Erg one spirit progeny snake -Erg eat do -FP -Ger -Top

tshiwa kungwi riukumanunka akawa
tshiua ku -gui riukub -a -nun -ka a- kau -a
grass all -Emph mixed -Pfv-be -Prtc 3sIO- give -Pfv

ukugin
u -kug -in
do -1sFP -in

'I gave a child that a snake had bit a mixture of all the classes of plants.'

A further extension is the sense 'to cooperate' or 'to exchange ideas'. The basis of extension is the container schema where the people are the parts mixing together. 'To cooperate' is then literally '(a group of people) being mixed together in a given situation'.

(91) shika wiwandzhinaru sʉntaru winʉn
shika uiua -dzhina -ru sʉntaru uinʉn
people Wiwa -PL -Top outsider wit'ı

rindzhiyukubi dzhʉwin.
ri- dzhi- iu -kub -i dzhi- u -in
OblR- 3pS- inserted -UnsAg -Ger 3pS- do -CK

'The Wiwa and the white men are exchanging ideas.'

The participial form **yunga** (**yu** 'inserted' + **-n** 'Actvzr' + **-ka** 'Prtc') is derived to designate a river mouth—the point to which a river 'goes down'. This utilizes metonymy 'means for end' and a nominalization.

(92) ukweru nayánʉnkwa dzhira yungamba.
u -kua -i -ru nai -a -nan -kua dzhira iunka -ba
do -FP -Ger -Top go -Pfv -be -FP water river.mouth -Obl

'And so he had gone to the river's mouth.'

The gerund form (**yuzhi**) of the motion verb **yun** 'go.down' (**yu** 'inserted' + **-n** 'Actvzr') means 'steep slope'. Here the motion of a person descending such a slope is used to represent the slope itself.

(93) umba mʉndzhiru yuzhi zhʉni.
umba mʉndzhi-ru iuzhi zhan -in
here from -Top steep.slope be -Ck

'From here it is a steep slope.'

Utilizing 'the body is a container', the sense 'to go down in' is extended to a transitive sense 'to swallow'.

(94) gumaga tshukkwí ayuná awánʉnka.
guma -ga tshukkuí a- iun -á u -á -nʉn -ka
snake -Erg rat in- go.down -Pfv do -Pfv -be -Prtc

'The snake swallowed the rat.'

The causative of this sense is used when making a child swallow something like medicine. It is also used to mean 'to turn down the volume', based on the metaphor 'up is loud, down is soft'.

(95) ranzhe ʉruama sigamba bebia riunshi
ra -zhe ʉruama siga -ba bebia ri- iun -shi -i
1s -Poss spirit progeny -Obl medicine OblR- go.down -Caus -Ger

ʉgwigugeru anzhe riunshá.
ʉgui -kug -i -ru anzhe ri- iun -shi -á
tell -1sFP-Ger -Top obey OblR- go.down -Caus -Pfv

'I told my child to swallow the medicine, and obeying he swallowed it.'

(96) indzhwi zhanekʉnukwashka shika
in- dzhwi zha- nek -ʉn -nuk -kua -ashka shika
one- day UnsO- become -Impf-be -FP -when person

nʉtwʉn nakwashkʉru grabadora anzharzhi
nʉ- tu -ʉn nak -kua -ashka -ru grabadora anzharzhi
1sDO- see -Impf come -FP -when -Top tape.player loud

zinanʉnka nukwe kʉma raga ranzhe
zin -á -nʉn -ka nuk -kua -i kʉma ra -ga ra -zhe
to.light -Pfv -be -Prtc be -FP -Ger InfW 1s -Erg 1s -Poss

menamba riunshi ʉgwiá.
mena -ba ri- iun -shi -i ʉgui -á
woman -Obl OblR- go.down -Caus -Ger tell -Pfv

'It was during one day that a person had come to see me and when he came, the tape player had been turned on really loud and I told my wife to turn it down.'

Word formation processes also use these verbs. 'To sew' is literally 'to cause string to be inserted'. This uses the means to represent the end.

(97) raga shi yushuga
ra -ga shi iu -shi -uga[4]
1s -Erg string inserted -Caus -1sPrtc
'I sew (i.e. I know how to sew)'

'To sew' is extended to mean 'to warn' in Damana. The religious leader, when performing a divination or a religious rite over a person often ties (sews) a string around the wrist of the patient as a physical symbol of the spiritual work. This religious rite is normally done before a person embarks on a trip or undertakes an important task. The string represents the religious leader's teaching and becomes part of the person. These teachings are often warnings about what not to do and they seem more like threats. This has been conventionalized as 'to warn'.

(98) ranzhingumiga ranzhe mena shi
ra- zhi- gumi -ga ra -zhe mena shi
1s- Poss- Mother.in.law -Erg 1s -Poss woman string
ayushi ra winun kwawinunka.
a- iu -shi -i ra uinun kua -aui -nun -ka
3sIO- inserted -Caus-Ger 1s with exist -NAP -be -Prtc
'My mother-in-law is warning my wife that she should not live with me.'

Another derived form is **unkuyunukurga** 'pocket'. The Wiwa do not have pockets in their clothes; instead they use bags to carry small possessions. This word must be fairly recent, showing that spatial relations are utilized productively in word formation and metaphoric extension.

(99) unkuyunukurga
unku- iu -nuk -ka -ru -ka
PossR- inserted -be -Prtc -Top -at
'pocket' (Literally: 'place for inserting one's own things')

[4]Damana uses the participle for habitual aspect.

Table 7 summarizes the metaphorical uses of **yu** shown above:

Table 7 Spatial Relation: yu '(be) inserted' (Down in)

Expression	Sense	Basis for extension
riukumánunka existing down in with respect to each other	be mixed together	one action (insert) represents several similar actions (mix-insert several items in same container)
riukub to exist down in with respect to each other	to cooperate/ exchange ideas	people as ingredients of mixture
yunga down goer	river mouth	means (going down) for end (place of arrival)
yuzhi going down	steep slope	personification
ayun to go down inside	to swallow	body is a container
riunshi to cause to go down in oneself	to make swallow	body is a container
	to turn volume down	up is loud; down is soft
yushi to cause to be down in	to sew	means (string down in) for end (sew)
	to warn	tying strings on wrists
unkuyuyunukurga place for inserting one's own things	pocket	locative nominalization of activity

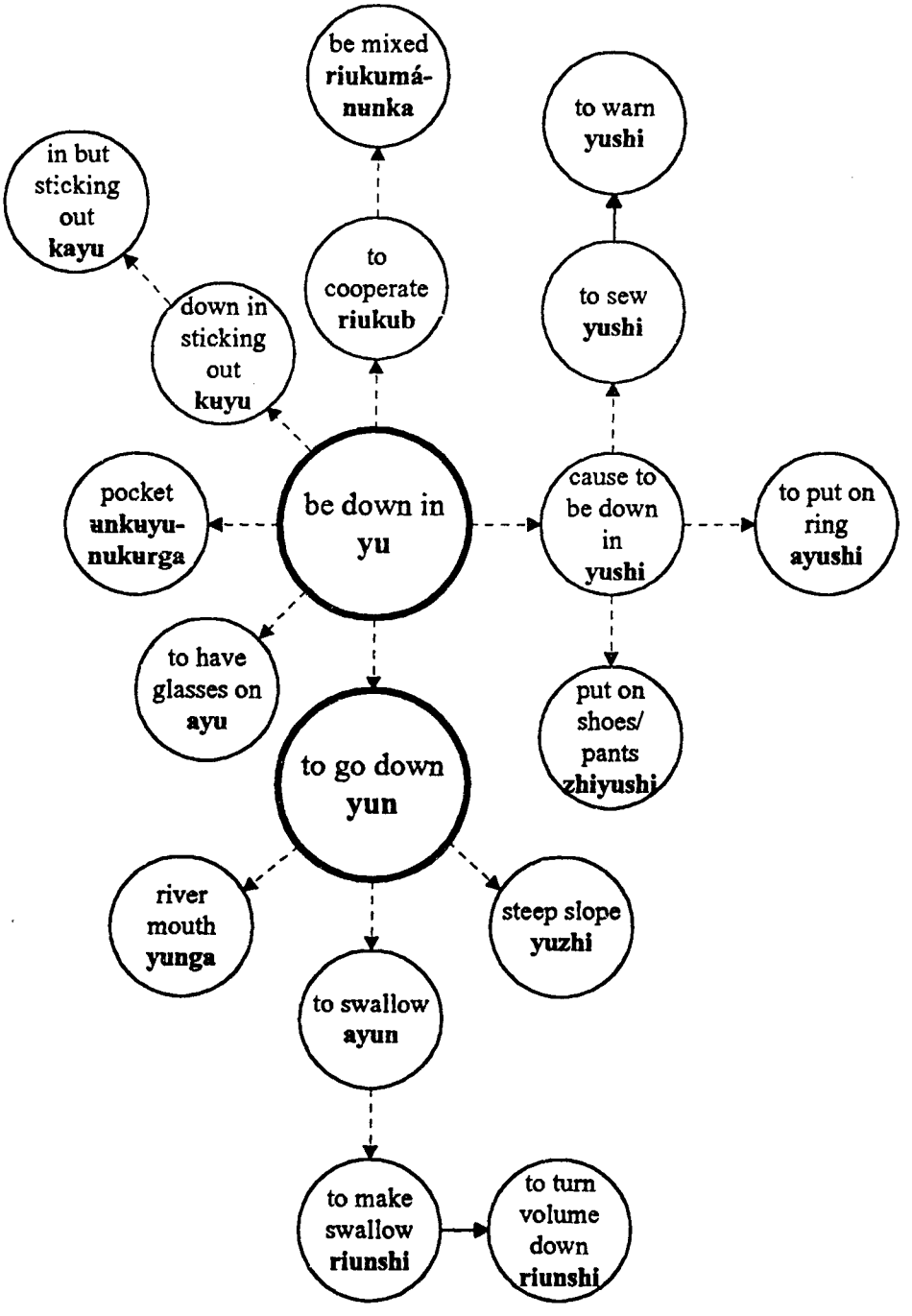

Figure 6 yu '(be) inserted'

6.2 Bi '(be) hung arched'

The verb **bi** '(be) hung arched' expresses that a long flexible object is draped over a central point so that the resulting overall shape is that of an arc.[5] Because of its nature, this verb is often associated with 'fabric-like' objects or at least something that is flexible as in example (100).

(100) ranzhasindzhinaga guma gwaga
ra- zhi- asi -dzhina -ga guma guag -a
1s- Poss- sister -PL -Erg snake kill -Pfv

dzhukwemundzhiru mandaka kunmba
dzhi- u -kua -i -mundzhi -ru manda -ka kun -ba
3pS- do -FP -Ger -from -Top above -at wood -Obl

izhimbi dzhawanunka.
i- zhi- bi dzhi- u -a -nun -ka
upon- 3pS- hung.arched/Pfv 3pS- do -Pfv -be -Prtc

'After my older sisters killed the snake, they hung it over a tree limb.'

'To wear clothes' uses **bi** 'be hung' because equal parts are 'hanging' in the front and back forming the symmetrical shape of an arc. Voiced stops in Damana are prenasalized in appropriate contexts, therefore 'to have clothes on' is **imbi** (**i-** 'upon' + **bi** 'hung.arched'). There is a connotation that since the clothes 'hang' on the person, they are considered to be too big.

(101) munkusara imbi
munkusara i- bi
clothes upon- hung.arched

'He has big clothes on.'

If clothes are not specifically mentioned, the normal interpretation would be some fabric-like object draped over a person's shoulder.

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[5]This word is also the word for century plant, which has this overall shape with its large curved leaves.

(102) toaya imbí nugín
toaia i- bi nuk -u -in
towel upon- hung.arched be -Wit -CK
'The towel is hanging (on shoulder).'

'To cause to be hung arched' is used for hanging clothes on barb-wire to dry.

(103) shayeru munkusara atukwa ukugemundzhiru
shaie -ru munkusara atuk -a u -kug -i -mundzhi -ru
yesterday -Top clothes wash -Pfv do -1sFP-Ger -from -Top
shimba imbishi kuma nukuga hanega.
shi -ba i- bi -shi kuma nuk -kug -a han -ega
string-Obl upon- hung.arched -Caus InfW be -1sFP-Pfv dry -Pur
'It was yesterday that I washed the clothes and then hung them over the string to dry.'

Ri- 'OblR' with **bi** '(be) hung arched' indicates ' to be hung on itself' and is used to mean 'to tangle'. This hindrance sense can be extended to mean 'to trip' or 'to get one's feet tangled up'.

(104) ranzhe sharu rimbikumanunka
ra -zhe sha -ru ri- bi -kub -a -nun -ka
1s -Poss hair -Top OblR- hung.arched -UnsAg -Pfv -be -Prtc
nugín gwishún nargashka.
nuk -u -in guish -un nan -ug -ashka
be -Wit -CK comb -Neg be -1sS -when
'When I do not comb my hair, it is all tangled up.'

(105) Eduardo zhuarianukwashkuru
Eduardo zhuari -un -nuk -kua -ashka -ru
Eduardo run -Impf -be -FP -when -Top

rimbikumanunkwa anzhari
ri- bi -kub -a -nun -kua anzhari
OblR- hung.arched -UnsAg -Pfv-be -FP hard

kupakumá.
ku- pa -kub -á
at- flat -UnsAg -Pfv

'While Edward was running, he tripped and fell hard, flat on his face.'

Bita (**bi** 'hung arched' + **-ta**[6] 'upright') can also mean 'crown (of a head)'. This appears to superimpose an imaginary arc hanging over the head, and refers to the apex of the arc where it hangs over the head.

(106) ra karumba mutunukwashakuru shamunku bitamba
ra karu -ba mut -un -nuk -kua -ashka -ru shamunku bita -ba
1s car -Obl enter -Impf -be -FP -when -Top head crown -Obl

anzhari nukukuma uyen.
anzhari nu- ku -kub -a u -ia -in
hard 1sDO- hit -UnsAg -Pfv do -Medl -CK

'I hit the top of my head hard getting in the car.'

The addition of **-n** 'Actvzr' to **bi** yields the meaning 'to go in the shape/direction of an arc', 'to go up and then down' as over a hill. When the Wiwa are headed to a specific destination, they use specific verbs such as 'to go up' or 'to go down'. **Bin**, however, involves motion going up and going down, and has been conventionalized to mean 'to wander'. Some of the sense of **bin** may also be extended from the inactivity of 'hanging'. When the Wiwa go somewhere just to say they have been there, to visit, or to acquaint themselves with the area, **bi** is used. This is similar to the English 'to hang out' or 'to hang about'.

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[6]**-Ta** appears to be a variant form of **te** 'upright'.

(107) ningwa nekakwaga nukunzhanún
ningua nek -akua -ka nu- ku- zhan -un
nothing become -Obg -Prtc 1sDO- Ben- be -Neg

namekuma iwaru dzhibu uguɾga binun
na -ame -kuma iua -ru dzhibu uga -ru -ka bi -n -un
be -because -InfW today -Top lake edge -Top -at hung-Actvzr-Impf

binun nayunga na
bi -n -un nai -unga na
hung.arched -Actvzr -Impf go -1sFut be

'Because I have nothing I have to do today, I am going to hang out at the beach.'

(108) urintshikin nekurimbinun
urintshi -kin ne- ku- ri- bi -n -un
both -Lim 1pDO- Ben- 3pS- hung.arched -Actvzr-Impf

dzhinakunka Davingwa.
dzhi- nak -unka David -gua
3pS- come -Fut David -also

'Both of them are coming to visit us, David also.'

Bi is used to describe a baby's first walk. It is also used to describe the aimless wanderings of animals; the connection being the element of 'purposelessness'. However, all motion encoded by **bi** would not have to be purposeless or aimless, since there is also an element of 'to go in a weaving motion (horizontal arcs)' such as the motion of a fish swimming.

(109) raru bizhi awanukún undua
ra -ru bi -n -i u -un -nuk -ug undua
1s -Top hung.arched -Actvzr -Ger do -Impf-be -1sS other

peburuɾga.
peburu -ru -ka
village -Top -at

'I am going to another village (no particular purpose).'

(110) zhinzhoma indzha imbizhi
zhinzhoma indzha i- bi -n -i
book ant upon-hung.arched -Actvzr -Ger
'The ant is wandering over the book.'

Example (111) illustrates the same meaning of **bi**, but applied to a different situation. With **a-** 'in' the verb describes the motion of the fish swimming under the water.

(111) dzhiraka ambiri[7]
dzhira -ka a- bi -n -i
water -at in- hung.arched -Actvzr -Ger
'A fish is swimming in the water.'

The idea 'to be hung from a point in a symmetrical fashion' is extended to 'to wind string around the big toe. This is how a strap is made for a bag and uses the metaphor 'means for end'. 'Making the strap hang' is used to represent the process of winding string in order to make the strap.

(112) ranzhabuga sustshina bishi
ra- zhi- abu -ga sustshina bi -shi -i
1s- Poss- mother -Erg strap hung.arched -Caus -Ger
awanugín ranzhe suzumba
u -un -nuk -u -in ra -zhi suzu -ba
do -Impf-be -Wit -CK 1s -Poss bag -Obl
ishteshunka.
i- zhi- te -shi -unka
upon- 3pS- upright -Caus -Fut
'My mother is making a strap. It will be put on my bag.'

With **u-** 'portative', **bi** '(be) hung arched' means 'to lead', in the sense that the thing guided has no control (no purpose) over where it goes (an animal or a person who

[7]Before /i/, /zh/ and /r/ are allophones.

does not know the area). **Umbinshi** (**u-** 'Por' + **bi** 'hung.arched' + **-shi** 'Caus'), then, builds both on the sense 'hung' (turned horizontal in a guide rope for an animal) and the lack of purpose of the one being led.

(113) buru shimbumba umbinsha
buru shimbun-ba umbinshi-a
donkey rope -Obl lead -Pfv
'He led the donkey.'

The spatial relationship of 'to be in front' combined with the sense of 'to lead' or 'to guide' implies dominance. The relationship of being at the 'head' of the animal goes along with the sense of dominance and power. With the metaphor 'having control is to be in front; being subject to control is to be behind', **umbinshi** means 'to win', 'to reign', or 'to dominate'.

(114) umbinsha sana
umbinshi-a san -a
lead -Pfv go.out -Pfv
'He will never let him win.' (Literally: 'Never let him lead.')

Umbinshi has the conventionalized meaning 'to make go'. This form is extended from 'to lead/guide' to refer to parents who have the responsibility for guiding their children. What is being extended is the authority of the one leading and neither the position of being in front nor the guide rope are present. **Umbinshi** in (115) still has the sense of 'to lead/guide' in that the child has no control but is merely accompaning his mother wherever she is going. Parents use this form when they are trying to get their children to stay close to them on the trail.

(115) abuga gumuntshina umbinshi nugín.
abu -ga gumuntshina u- bi -n -shi -i nuk -u -in
mother-Erg child Por-hung -Actvzr -Caus -Ger be -Wit -CK
'Mother is making the child go.'

Even in its use with animals, it has been conventionalized to the extent that neither a rope nor the position of being in front have to be present.

(116) ranzhdugaga buey umbinshi
ra- zhi- duga -ga buei u- bi -n -shi -i
1s- Poss- brother-Erg ox Por-hung.arched -Actvzr -Caus-Ger

kuma awanugá
kuma u -un -nuk -á
InfW do -Impf-be -Pfv

'My younger brother was driving the ox.'

Table 8 Spatial Relation: bi '(be) hung arched'

Expression	Sense	Basis for extension
imbi to be upon in shape of arc	to be dressed	arc (big clothes)
	to be draped	shape of century plant
imbishi to cause to be hung in shape of arc	to hang out clothes	shape of clothes hung arched
rimbikub to exist hung on itself	to tangle up	end (hung up on self) for means (to tangle)
	to trip	end (hung up on self) for means (to trip)
bita upright point of hanging	crown of head	imaginary arc around person
bin to go in shape of an arc	to wander/ hang out	inactivity of hanging (arc-like motion)
	to visit	inactivity of hanging (arc-like motion)
	to swim (fish)	weaving (arc-like) motion
bishi to cause to hang arched	to make a strap	means (hang string) for for end (make strap)

umbinshi to cause to be moved (with horizontal guide rope in shape of arc)	to lead	having control is to be in front; being subject to control is to be behind
	to dominate/win	having control is to be in front; being subject to control is to be behind
	to guide	having control is to be in front; being subject to control is to be behind

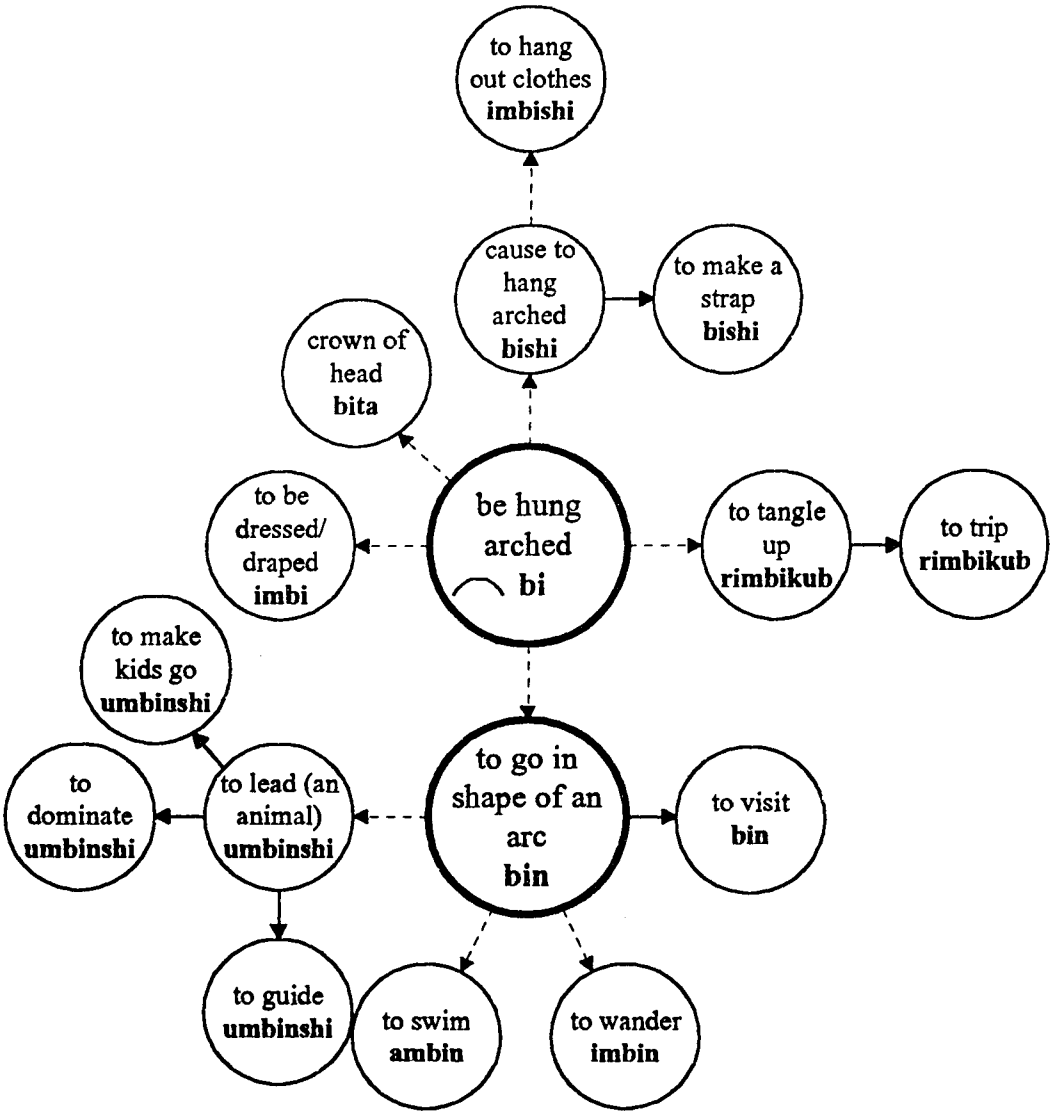

Figure 7 bi '(be) hung arched'

6.3 Soz '(be) snagged'

Another spatial relationship is denoted by the verb **soz**. Its gloss '(be) snagged' implies 'to obtain by pursuing and grasping'. When contact is involved, it is being grasped or snagged with fingers, a hook, or a claw.

(117) dumagaga conejo so kuma ukwá gayiega
dumaga-ga conejo soz kuma u -kuá ga -ega
puma -Erg rabbit snagged/Pfv InfW do-FP eat -Pur

'The puma grabbed the rabbit (from behind with its claws) to eat it.'

The nominalized form of **soz** '(be) snagged' with **-ka** '3sPrtc' means 'fisherman' (literally, 'one who snags (with a hook)').

(118) soska
soz -ka
snagged-Prtc

'fisherman'

A compound construction is formed from **soz** 'snagged' and **sewa** 'fish' to make 'fishing net'.

(119) sewasozhi
sewa-soz -shi -i
fish- snagged -Caus -Ger

'fishing net'

With indirect object agreement prefixes, **soz** implies 'to hold a possession with fingers'.

(120) zhinzhoma gogandzhina winkuma awashkuru ragangwa
zhinzhoma gau -ka -dzhina uinkub-a u -ashka -ru ra-ga -gua
book make-Prtc -PL meet -Pfv do-when -Top 1s-Erg-also

lapi naso zhinzhoma gawangayie.
lapi na- soz zhinzhoma gau -unga -ie
pencil 1sIO-snagged/Pfv book make -1sFut -like

'When the ones who know how to write (book makers) are gathered together, I also, having taken hold of my pencil, will write like them.'

Because of the nature of **soz** '(be) snagged', which prototypically implies contact and movement, both the positional relationship between two objects (one closely behind another) as well as the snagging itself can be extended in metaphor.

Like **pa** '(be) flat', **soz** can also be used to mean 'to receive' as an extension of the sense 'to be snagged/grasped'. Here, again, the means represents the end result.

(121) ra mena guguní nukugashkuru dumburu
ra mena gug -uni nuk -kug -ashka -ru dumburu
1s woman get -NegPfv be -1sFP-when -Top gourd

nasonukún ukwemundzhi mena guga
na- so -nuk -ún u -kua -i -mundzhi mena gug -a
1sIO- snagged -be -Neg do -FP -Ger -from woman get -Pfv

ukugashkuru dumburu risó awanarga
u -kug -ashka -ru dumburu ri- soz u -a -nan -uga
do -1sFP-when -Top gourd OblR- snagged/Pfv do -Pfv-be -1sPrtc

ni
na -in
be -CK

'When I had not taken a woman, I did not hold my gourd. Afterwards, when I took a woman, I received my gourd.'[8]

In example (122), there is a sense of 'to grab it back', that is 'to receive'.

(122) abu senuran kuna ukwashkuru matuna gura kukina
abu senuran kun -a u -kua -ashka -ru matuna gura ku- kin -a
mother Senuran give -Pfv do -FP -when -Top Matuna arm Ben- fall -Pfv

ukwashkuru Shukwakuraga ingwi risó.
u -kua -ashka -ru Shukuakura -ga ingui ri- só
do -FP -when -Top Shukwakura -Erg again OblR- snagged/Pfv

'When mother Senuran (mother earth) was given to Matuna, his arm fell off, and when this happened, Shukwakura received her back again (grabbed her back).'

With **soz** '(be) snagged', what is received has to be something small enough to hold with the fingers.

[8]The use of the gourd is a fertility rite which is done only by married men.

(123) raga ugwarugaru ranzhdugaga tera
ra -ga uguan -uga -ru ra- zhi- duga -ga tera
1s -Erg think -1sPrtc -Top 1s- Poss- brother -Erg egg

risozhi dakubi ukwame.
ri- soz -shi -i dakub -i ukwame
OblR- snagged -Caus -Ger break -Ger prevent

'I made my younger brother hold the eggs so they would not break.' (Literally: 'I am thinking that I should make my younger brother hold the eggs to prevent them from breaking.')

In prototypical use of **soz**, such as a predator chasing a prey, one animate thing is behind another. This relationship is extended with the end result used to represent the process itself (following). In (124), **soz** is used as an adverb describing the relative position of the two moving entities.

(124) dumagagaru conehomba kusó zhuariun kuma
dumaga -ga -ru conejo -ba ku- só zhuari -un kuma
puma -Erg -Top rabbit -Obl at- snagged run -Imp InfW

nushá
nuk -iá
be -Medl

'The puma was closely behind the rabbit chasing it.' (Literally: 'The puma was behind the rabbit (within snagging distance) running after it.')

Because of the narrow trails that crisscross the mountain range, it is normally not possible to walk side by side. Asking to follow someone is the same as asking to go with them.

(125) mukso naiyunga?
mu- ku- soz nai -unga
2sDO- at- snagged go -1sFut

'May I go with you?' (Literally: 'Will I follow you?')

(126) maka shigi ima uruama siga mukuso
ma -ka shigi ima uruama siga mu- ku- soz
2s -Erg tomorrow this spirit progeny 2sDO- at- snagged

munení manzhe uragaka
mu- u- nai -na -in ma -zhe uraga -ka
2s- Por-go -be -CK 2s -Poss house -at

'Tomorrow, take my son with you to your house.' (Literally: 'You, tomorrow take this child behind you to your house.')

The use of **unku-** 'PossR', indicates that the two people are of the same class or family. Literally this means 'he is going following his own'.

(127) ra kemakumuke mundzhi ingwi ranshkawa nun
ra kemakumuke mundzhi ingui ra- zhi- kaua nun
1s Kemakumuke from again 1s- Poss- family with

unkuso yungugín.
unku- soz iun -kug -in
PossR- snagged go.down -1sFP -CK

'I came down from Kemakumuke with my family following closely behind.'

With regard to the sense 'to follow', culturally, the one who is ahead or in front has the higher status. It is a pervasive metaphor in Damana that high status is to be in front and low status is to be behind. A man, for example, walks in front of his family. Thus, **soz** is extended to indicate responsibility for the care of others. This could also be somewhat related to the metaphor 'having control is to be in front; being subject to control is to be behind'.

(128) ranzhiguma akwega
ra- zhi- guma a -kua -ai -ka
1s- Poss- son small -exist -Advzr -Prtc

nuksonukumbangwa.
nu- ku- soz -nuk -ka -ba -gua
1sDO- at- snagged -be -Prtc -Obl -also

'My small son, for whom I am responsible (who follows me), also lives here.'

The senses 'to follow' and 'to snag' are both exploited in the following use of **soz**. The stripes on a woven bag that is composed of two colors is pictured as one color following the other around the bag and snagging (catching) it on the other side. 'SO' in the example indicates that the two stripes have the same orientation.

(129) raga ingwi dwadu nukunu nka mema dwaduru
ra -ga ingui duadu nu- ku- nun -ka mema duadu -ru
1s -Erg one bag 1sDO- Ben- be -Prtc that bag -Top

risonushi goguma nunka ingwi tenaru
ri- soz -nuk -i gau -kub -a nun -ka ingui tena -ru
OblR- snagged -be -Ger make -UnsAg -Pfv be -Prtc one side -Top

utshiki ingwi tenaru anzisi ime nungaga
utshiki ingui tena -ru red ime nun- gag -a
green one side -Top red like.this SO- horiz -Pfv

nungaga kwega.
nun- gag -a kua -ai -ka
SO- horiz -Pfv exist -Advzr -Prtc

'I have a bag. This bag is made so that the two colored stripes meet on the other side (one color follows and catches the other). One side is green and one side is red. Like this the colors are on top of each other.'

Soz when used with **zhinzhoma** 'book', is extended to mean 'to learn'. Knowledge is being treated as a concrete object that can be 'snagged'.

(130) ɯwame memanzhe zhinzhoma risozabinunka.
u -ame mema -zhe zhinzhoma ri- soz -abi -nun -ka
do -because that -Poss book OblR- snagged -NAP -be -Prtc
'Therefore that one's teaching should not be learned by oneself.'

To respond is expressed as 'to snag words'—words are treated as objects to be caught and handled. This means that the person heard and acknowledged the communication.

(131) ranzhabuga ingwi ranzhduga kɯkana
ra- zhi- abu -ga ingui ra- zhi- duga kɯ- kan -a
1s- Poss- mother -Erg one 1s- Poss- brother Ben- call -Pfv

ukwashkuru gugaso kuma ukwá.
u -kua -ashka -ru gugа- so kuma u -kuá
do -FP -when -Top word- snagged/Pfv InfW do -FP

'My mother called for my younger brother and he responded (snagged the words).'

Table 9 Spatial Relation: soz '(be) snagged' (Be ahead/behind)

Expression	Sense	Basis for extension
aso to snag with fingers	to hold	means (to snag with fingers) for end (to hold)
riso to snag for oneself	to receive	means (to snag with fingers) for end (receive)
risozhi to cause to snag for self	to cause to hold	means (to snag with fingers) for end (to hold)
kuso to be at snagging (distance)	to follow closely	end (snagging distance) for means (following closely)
	to accompany	narrow trails; therefore, go behind
	to be responsible	high status is to be in front; low status is to be behind
	to be in charge	having control is to be in front; being subject to control is to be behind
risonushi be snagging each other	be striped	lines on a bag are personified as 'chasing' each other
risozabinunka should not be snagged for oneself	should not be followed or learned	knowledge is an object to snag
gugaso to word-snag	to respond	words are objects to snag

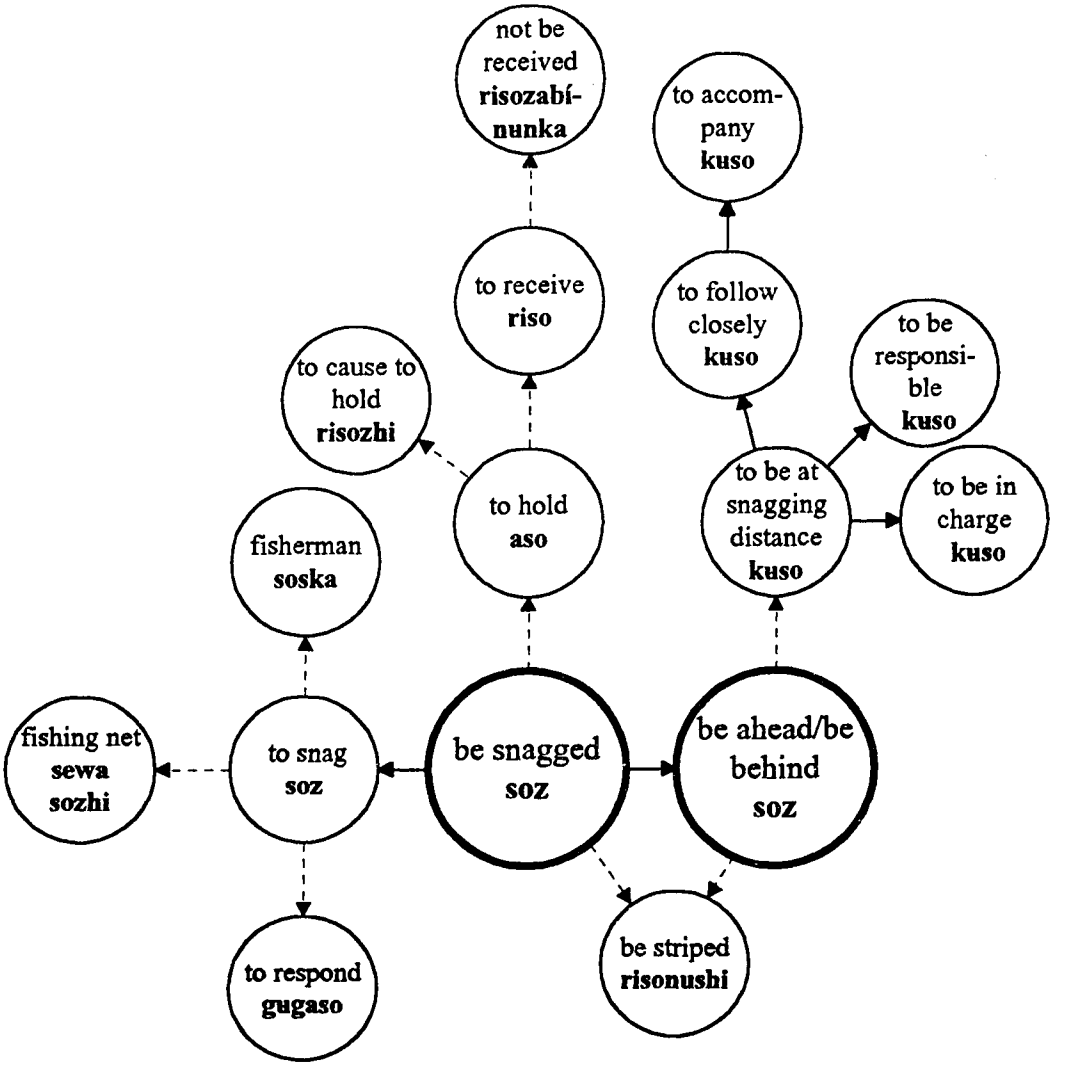

Figure 8 soz '(be) snagged'

6.4 We '(be) apart'

The spatial relationship between two objects which are not in contact is referenced by the verb **we** '(be) apart'. The shape of the objects is completely irrelevant; what is important is the gap between the two objects. In example (132), **we** references the gap between the birds and the ground. Reduplication indicates plurality.

(132) we we na'i
ue ue nai -i
apart apart go -Ger
'(The birds) are flying.'

In example (133), the spatial relation **we** 'be apart' is used as an adverb of manner describing the space between two objects.

(133) ranzhingumaga shekunogwa kuwe nayunuka kusa
ra- zhi- guma -ga shekunogua ku- ue nai -un -nuk -ka kusa
1s- Poss- son -Erg horse at- apart go -Impf -be -Prtc foot
kupashi ukwame.
ku- pash -i ukuame
Ben- hit -Ger prevent
'My son goes apart from the horse, to prevent being kicked.'

In the following example, **we** is used as a predicate adjective to describe the space between a door and a door frame.

(134) guma kuwe nukwashkuru ranzhe kunsinguma
guma ku- ue nuk -kua -ashka -ru ra -zhe kunsi -guma
opening at- apart be -FP -when -Top 1s -Poss dog -Dim
nikinzhuariá.
nu- ki- zhuari -á
1sDO- Mal- run -Pfv
'While the door was open, my puppy ran away on me.'

With **ri-** 'OblR', the space defined by **we** is between two parts of a single object. Below, **we** would mean 'open' as it refers to the space between the two sides of a bag.

(135) ranzhingwiaga dwadu riwesha
ra- zhi- guia -ga duadu ri- ue -shi -a
1s- Poss- brother-Erg bag OblR- apart -Caus-Pfv

ukwemundzhiru dumburu awar.
u -kua -i -mundzhi -ru dumburu auar
do -FP -Ger -from -Top gourd take.out

'My older brother opened his bag and took out the gourd.'

We is extended in metaphor. The causative form of **we** literally means 'to cause a gap'; when used in connection with starting a fire it means 'to fan'. This apparently refers to the smoke that is separated from the fire by fanning. The metaphor is end for means.

(136) sizi Lorenzoga gie wi ukwemundzhiru
sizi Lorenzo -ga gie ui u -kua -i -mundzhi -ru
friend Larry -Erg fire heat do -FP -Ger -from -Top

weshi nugwigweru raga anzhe we.
ue -shi -i nu- gui -kua -i -ru ra -ga anzhe ue
apart -Caus-Ger 1sDO- tell -FP -Ger -Top 1s -Erg obey apart/Pfv

'My friend Larry lit the fire and afterwards he told me to fan it and I obeyed and fanned.'

Weshi has been conventionalized and now just means 'to fan', whether or not separation is involved. To fan oneself requires **nun-** 'SO' (Shared Orientation).

(137) gwiandzhina wi wi amurashka unanzhe
guia -dzhina ui ui a- mut -ia -ashka una -zhe
brother-PL heat heat 3sIO-enter -Medl -when 3s -Poss

tutushomamba nunweshi nugín.
tutushoma -ba nun- ue -shi -i nuk -u -in
hat -Obl SO- apart-Caus -Ger be -Wit -CK

'When the older brothers are hot, they fan themselves with their hats.' (Literally: 'When heat enters the older brothers, he[9] fans himself with his hat.')

The next few examples illustrate the metaphorical extension of **we** using the metaphor end for means. In example (138), **we** is used with **a-** 'in' to indicate the gap between objects in a bounded area (container-like), in this case, the forest. **Awe** is used to indicate that the small growth under the trees has been cut away, leaving cleared gaps between the trees.

(138) ra kunkuna aweshi nukun zharikungamba
ra kunkuna a- ue -shi -i nuk -ug zharikun -ka -ba
1s forest in- apart -Caus-Ger be -1sS plant -at -Obl

'I am clearing the forest where I will plant.' (Literally: 'I am causing the trees to be apart (so that there is room) where I am going to plant.'

The sense of 'to have gaps' can also be used to mean 'to make room or space for somebody', that is 'to get out of the way'.

(139) ungina yunwa kuma awa kuwekuma ushi.
ungina iun -unua kuma u -a ku- ue -kub -a u -shi
rock go.down-Imn InfW do-Pfv at- apart-UnsAg -Pfv do-Caus

'A rock is starting to come down, get out of the way!'

The sense of 'to cause gaps to be made for someone' is derived to mean 'to sort (separate in piles)'.

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[9]In the main clause, the auxiliary **nugín** carries subject agreement which in this case is third person singular, referencing the older brothers as a collective unit.

(140) ingwi suzumba ekwegandzhina atshikwagaru ranzheru
ingui suzu -ba ekuega-dzhina a- dzhi- kua -ka -ru ra -zhe -ru
one bag -Obl thing -PL in- 3pS- exist -Prtc -Top 1s -Poss-Top

ranzhengwazi ʉnkʉweshá ushawó.
ra -zhe -guazi ʉnkʉ- ue -shi -a u -shi -auó
1s -Poss -Intens PossR- apart-Caus -Pfv do -Caus-2pImp

'In this bag are all sorts of things, you all separate mine (from the rest).'

The use of **we** with **ʉnkʉ-** 'PossR', can also mean 'to choose for oneself'.

(141) raga mʉntshi ʉnzhʉnga zukwiangwazi
ra -ga mʉnshi a- zhʉn -ka zu -ku -ia -gwazi
1s -Erg sweet 3sIO- be -Prtc good -exist -like -Intens

ʉnkʉweshá.
ʉnkʉ- ue -shi -á
PossR- apart-Caus -Pfv

'I chose (set apart) the sweet ones; the especially good ones for myself.'

We is also used in describing swimming and flying. Both involve a gap between the person or animal and a solid surface.

(142) wekuma shindzha narga
ue -kum -a shindzhi -a nan -uga
apart -UnsAg -Pfv learn -Pfv be -1sPrtc

'I learned to swim.'

(143) magʉraru mandaka mʉndzhi wekuma kʉma
magʉra -ru manda -ka mʉndzhi ue -kub -a kʉma
turkey.buzzard -Top above -at from apart -UnsAg -Pfv InfW

nushá.
nuk -iá
be -Medl

'The turkey-buzzard flew from high above in the sky.'

(144) shewa zhingwiru dzhirarga kin wekuma
sheua zhingui -ru dzhira -ru -ka kin ue -kub -a
fish the.same -Top water -Top -at Lim apart-UnsAg -Pfv

uguntshikwaga ni.
uguntshikwaga na -in
know be -CK

'Fish really only know how to swim in water.'

Table 10 Spatial Relation: we '(be) apart' (Gap between)

Expression	Sense	Basis for extension
riweshi to cause a gap between itself	to cause to open	end (have a gap) for means (to open)
weshi to cause a gap	to fan a fire	end (have a gap) for means (to fan)
	to fan	end (have a gap) for means (to fan)
aweshi to cause a gap inside	to clear a forest	end (have a gap) for means (cut small trees)
kuwekub to exist with gap at some location	to have room	end (have a gap) for means (to make room)
unkuweshi to cause a gap between (whatever) and one's own	to sort	end (have a gap) for means (to sort)
	to choose	end (have a gap) for means (to choose)
wekub to exist with gap between	to swim	end (gap from ground) for means (to swim)
	to fly	end (gap from ground) for means (to fly)

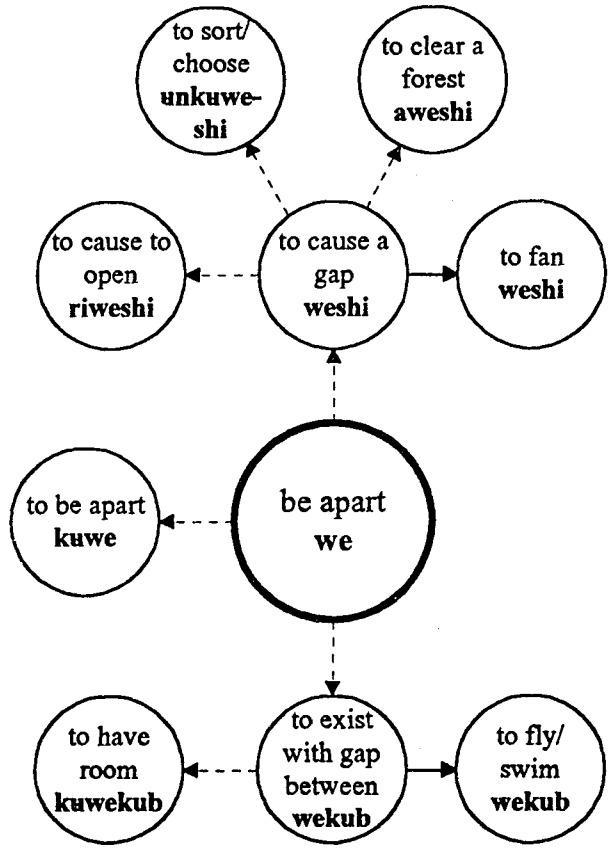

Figure 9 we '(be) apart'

6.5 Ma '(be) wrapped'

Several spatial relation verbs describe the bond between two objects. The verb **ma** '(be) wrapped' is used to describe the relationship 'to be wrapped around'. Two typical examples of **ma** are for a wrist watch around the wrist or a towel around the body.

(145) guramba rero namanuka ni mama dzhwisa
gura -ba rero na- ma -nuk -ka na -in mama dzhuisa
arm -Obl watch 1sIO- wrapped -be -Prtc be -CK shaman sun

unkupekumakin twanga.
unkupekumakin tu -unga
position see -1sFut

'My watch is wrapped around (my) arm. (This way) I will see what time it is (position of the sun god).'

(146) toaya namakwega
toaya na- ma -kua -ai -ka
towel 1sIO- wrapped -exist -Advzr -Prtc

'His towel is wrapped around him.'

With **-ka** 'participle', there is a nominalization of **ma** which means 'sheet' or 'blanket' ('that which is caused to be wrapped around oneself'). The abbreviation 'SO' means shared orientation.

(147) **numashka**
nun- ma -sh -ka
SO- wrapped -Caus -Prtc

'blanket/sheet'

The addition of **-n** 'Actvzr' produces the sense 'to go around something', a path which is wrapped around a landmark. In cases with a definite agent, **-shi** 'Caus' is used.

(148) ranzhe burugaru kurapishi muntshi[10]
ra -zhe buru -ga -ru kurapishi ma -n -shi -i
1s -Poss donkey-Erg -Top press wrapped -Actvzr -Caus -Ger

awanugín mun anzhunga gawega.
u -un -nuk -u -in mun a- zhun -ka gau -ega
do -Impf-be -Wit -CK sweet 3sIO- be -Prtc make -Pur

'My donkey turns the press in order to make sweets.' (Literally: 'My donkey is causing the (sugar cane) press to go around in order to make sweets.')

(149) ranzhe purkundzhinaga kuraru muntshi kuma
ra -zhe purku -dzhina -ga kuraru ma -n -shi -i kuma
1s -Poss big -PL -Erg corral wrapped -Actvzr -Caus -Ger InfW

nugá atunega.
nuk -á atun -ega
be -Pfv leave -Pur

'My pigs are circling inside the corral (trying) to get out.'

When no agent is specified, **munkub** (**ma** 'wrapped' + **-n** 'Actvzr' + **-kub** 'UnsAg') is used to mean 'to turn oneself around', 'to rewind a tape recorder', 'to circle' (e.g. an airplane), or 'to be dizzy'.

(150) manzhingumaru kurumbiumba munkubi
ma- zhi- guma -ru kurumbiu -ba munkub -i
2s- Poss- son -Top swing -Obl go.around -Ger

awanugín
u -un -nuk -u -in
do -Impf -be -Wit -CK

'Your son is going around on the swing.'

[10]/a/ raises to /u/ in closed syllables.

(151) garabadoragaru caset zhe cinta munkubi
garabadora -ga -ru caset zhe cinta munkub -i
tape.player -Erg -Top cassette Poss tape go.around -Ger

awanugín.
u -un -nuk -u -in
do -Impf-be -Wit -CK

'The tape is rewinding in the tape player.' (Literally: 'The cassette's tape is turning around in the tape player.')

(152) avionru una ashenga ruamba munkubi
avion -ru una a- shen -ka rua -ba munkub -i
plane -top 3s 3sIO- fall -at above -Obl go.around -Ger

awanugín.
u -un -nuk -u -in
do -Impf-be -Wit -CK

'The plane is circling above the airport (the place where it falls).'

In (153) the person becomes the landmark with the concept of 'being dizzy' and the land figuratively goes around the person.

(153) mandaka ishturugashkuru kunguma
manda -ka i- zhi- tun -ug -ashka -ru kungunga
above -at upon- 3pS- arrive -1sS -when -Top earth

munkubi ukaye namuka ni.
munkub -i u -ka -ie na- mut -ka na -in
go.around -Ger do -Prtc -like 1sIO- enter -Prtc be -CK

'(Every time) when I arrive at a high altitude, the ground appears to be going around to me (dizzy).'

This idea of 'to go around something' is nominalized and personified in (154) to describe a curvy or winding object.

(154) gegurga aruká zhingwiru ingunaru
gegu -ru -ka arug -ka zhingui -ru inguna -ru
Sierra -Top -at ascend -Prtc the.same -Top trail -Top

mey mey munkumánunka ni.
ma -ai ma -ai munkub -á -nun -ka na -in
wrapped -Advzr wrapped -Advzr go.around -Pfv -be -Prtc be -CK

'Going up into the Sierra, the trail is very curvy (goes around in a wrapping fashion).'

The addition of **a-** 'DOR' yields the sense 'to wrap something around onself'.

(155) sheku se namusashka sabanamba amunkubi
sheku se na- mut -iá -ashka sabana -ba a- munkub -i
night cold 1sIO- enter -Medl -when sheet -Obl DOR- go.around -Ger

gwazi ukwín.
guazi u -ku -in
Intens do -1sMedl -CK

'During the night when I was cold, I wrapped myself in a sheet.'

The wrapping can be done in a figurative sense as in the following example where smoke is treated as a blanket.

(156) sutá mimazhi awashka mawi.
sutá mi- ma -n -i u -ashka mau -i
smoke 2sIO- wrapped -Actvzr -Ger do -when cry -Ger

'When smoke is wrapping around you, you cry.'

Within the Wiwa culture, the primary reasons for wrapping an object are to take it on a trip or to leave it behind in storage. Therefore, a logical interpretation of the causative form 'to cause to be wrapped' is 'to leave something behind'. All of the following derived forms that use the sense of 'to leave' or 'to remain' involve the metaphor means for end. Note that in example (157) this sense has been extended and what is left is a person with no meaning of being wrapped or bound.

(157) ranzhe uruama sigandzhinaru ranzhabu nun
ra -zhe uruama siga -dzhina -ru ra- zhi- abu nun
1s -Poss spirit progeny -PL -Top 1s- Poss- mother with

masha yunanarga ni.
ma -shi -a iun -a -nan -uga na -in
wrapped -Caus -Pfv go.down -Pfv -be -1sPrtc be -CK

'I left my children with my mother and have come down.'

'To remain' or 'to stay' without a specified agent utilizes **-kub** 'UnsAg'.

(158) umba makuma muni
u -ba ma -kub -a mu- u -na -in
here -Obl wrapped-UnsAg -Pfv 2s- do -be -CK

'Stay here!'

'To leave something for someone' uses **-shi** 'Caus' and **ku-** 'Ben'.

(159) ade ruabikuga nekumashánunka
ade ruabiku -ga ne- ku- ma -sh -á -nan -ka
father Ruabiku -Erg 1pDO- Ben- wrapped -Caus -Pfv -be -Prtc

'Father Ruabiku had left it for us.'

An extension of 'to leave' is 'to leave (an action); to stop'. The activity is viewed as a concrete object that can be left or discarded.

(160) memé neka masha ushí
memé nek -ka ma -shi -a u -shi
in.that.way become -Prtc wrapped -Caus -Pfv do -Caus

'Stop doing that!'

(161) ra angama masha awanarga ni
ra anga -ma ma -shi -a u -a -nan -uga na -in
1s drink -ON wrapped -Caus -Pfv do -Pfv -be -1sPrtc be -CK

kashishubangwa nasikuma ukwame
kashishuba -gua na- sis -kub -a ukuame
riches -also 1sIO- finish -UnsAg -Pfv prevent

'I have stopped drinking, to prevent my riches from being used up.'

'To leave something for oneself' is essentially 'to keep something'. **unku-** 'PossR' is used to express this.

(162) manzhe menangwi unkumasha
ma -zhe mena -gui unku- ma -shi -a
2s -Poss woman-Emph PossR- wrapped-Caus -Pfv

muní.
mu- u -na -in
2s- do -be -CK

'You keep it, it's your wife's.'

This word is also used for 'to get engaged (to be married)'; that is, 'to keep each other for ourselves'.

(163) nukwagurashkuru unkumakuma
nuk -kua -kut -ashka -ru unku- ma -kub -a
be -FP -1pS -when -Top PossR- wrapped -UnsAg -Pfv

'And (while studying) we got engaged.'

The concept of 'to be married' is similiar 'to be engaged'. 'To be married' is literally 'to be wrapped with something that one owns'; this is expressed by including **a-** 'in'.

(164) raru unkamakubi aunukún
ra -ru unku- a- ma -kub -i u -un -nuk -ug
1s -Top PossR- in- wrapped -UnsAg -Ger do -Impf -be -1sS

mena guga ukwemundzhi
mena gug -a u -kua -i -mundzhi
woman get -Pfv do -FP -Ger -from

'After having got a woman, I am marrying her.'

(165) ranzhe menagaru ʉguntsha inzhina kwauga inzhina
ra -zhe mena -ga -ru ʉguntsh -a inzhina kua -uga inzhina
1s -Poss woman -Erg -Top know -Pfv how exist -1sPrtc how

zhauga ʉnkamakuma awanʉnkura
zha -uga ʉnkʉ- a- ma -kub -a u -a -nʉn -kura
eat -1sPrtc PossR- in- wrapped -UnsAg -Pfv do -Pfv -be -1pPrtc

name.
na -ame
be -because

'Because we have married, my woman knows how I live and how I eat.'

Besides 'to be married', example (165) illustrates another extension; 'to become accustomed to'. After a prolonged existence in an area with something else, one becomes 'wrapped with it', or 'accustomed' to it. This expression is also used for becoming better acquainted, or becoming accustomed to the weather.

(166) makaru mena mʉkamʉkubiki
ma -ka -ru mena mʉ- kʉ- a- ma -kub -i -ki
2s -Erg -Top woman 2sDO- at- in- wrapped -UnsAg -Ger -IF

awʉnukú?
u -ʉn -nuk -ú
do -Impf -be -Q

'Has your woman become accustomed to you?'

(167) raru umba Santa Marta wi zhanekambangwa
ra -ru umba Santa Marta ui zha- nek -ka -ba -gua
1s -Top here Santa Marta heat UnsO- become -Prtc -Obl -also

kwama nʉkamʉkubi
kua -ma nʉ- kʉ- a- ma -kub -i
live -ON 1sDO- at- in- wrapped -UnsAg -Ger

awʉnugín.
u -ʉn -nuk -ʉ -in
do -Impf -be -Wit -CK

'I have become accustomed to living in Santa Marta with the heat.'

Munshi nunka 'sweet', a nominalized expression, is an example of (**ma** 'wrapped' + **-n** 'Actvzr' + **-shi** 'Caus') (**nun** 'be' + **-ka** 'Prtc') being used in a metaphor means for end. 'Sweet' is extended from 'that which has been caused to go around' because sugar is extracted from sugar cane using a sugar cane press, a machine which requires walking in a circle for a long period of time (see example 145). Sweet and tasty are interchangeable senses in Wiwa culture.

(168) musaru muntshi nunka ni.
musa -ru munshi nunka na -in
iguana -Top sweet be -CK

'Iguana is sweet/tasty.'

(169) ima menaru muntshi nunka duka ni mama dzhwisa
ima mena -ru munshi nunka dug -ka ni mama dzhuisa
this woman-Top sweet cook -Prtc na -in shaman sun

nuyakin.
nai -akin
go -Lim

'This woman is a good cook every day.' (Literally: 'This woman is a cooker of tasty (things) each time the sun goes by.')

Table 11 Spatial Relation: ma '(be) wrapped'

Expression	Sense	Basis for extension
munkumánunka that which remains in a circular motion	be curvy	personification
makub to exist wrapped	to remain	means (wrapped) for end (to remain)
mashi to cause to be wrapped	to leave behind	means (to wrap) for end (to leave behind)
	to stop an action	activity as (wrapped) object
unkumashi to cause one's own things to be wrapped	to keep	means (to wrap for self) for end (to keep)
unkumakub to exist with one's own things wrapped	to be engaged	means (to wrap one's own) for end (to be engaged)
kamakub to exist wrapped with something	to be accustomed	means (wrapped) for end (accustomed)
unkamakub to exist wrapped in one's own	to marry	means (to be accustomed) for end (to marry)
muntshi causing to go in circle	be sweet/tasty	means (to go in circle) for end (be sweet)

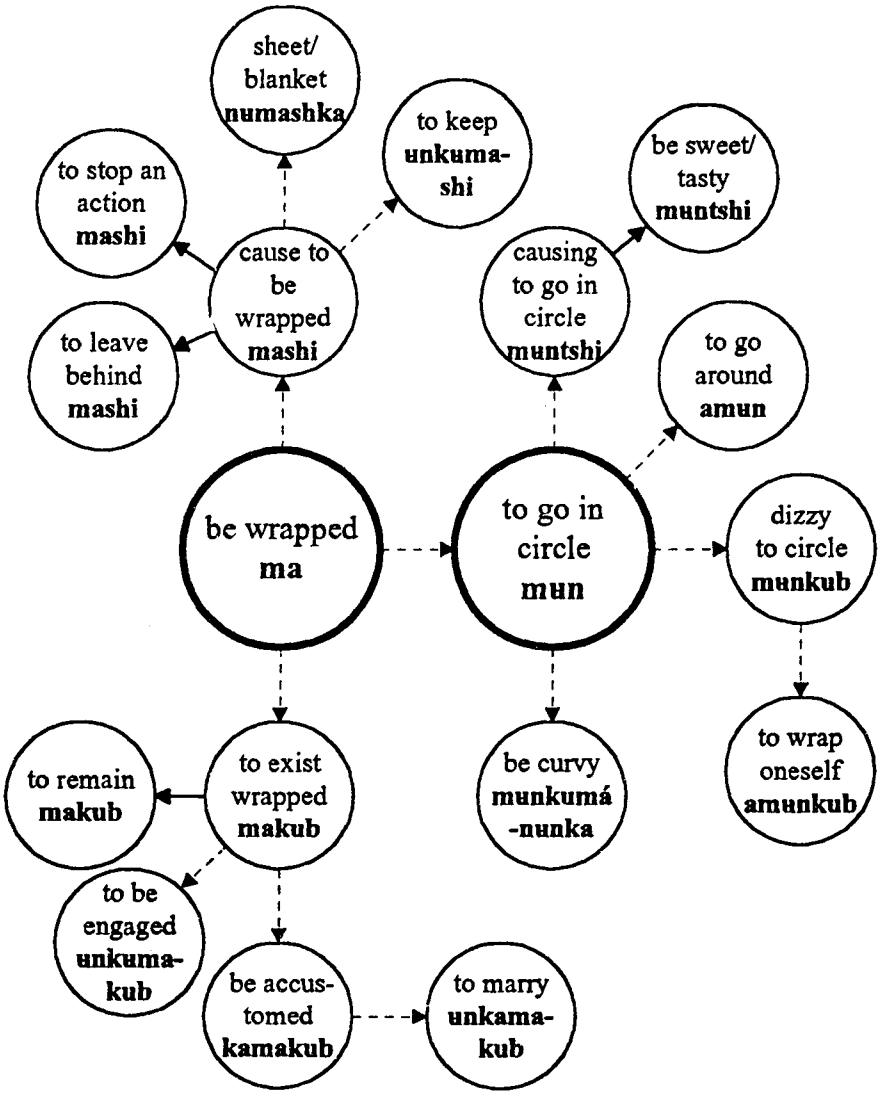

Figure 10 ma '(be) wrapped'

6.6 Pe '(be) open'

Another verb which refers to a spatial relationship is **pe** '(be) open'. It conveys the opposite of **pa** '(be) flat' when it means 'to be covered' or 'to be sealed'. Because 'to be open' is normally associated with an enclosed space of some sort, **a-** 'in' (referring to the container) is frequently affixed to it.

(170) mawigaru uraga ape mawankwemundzhiru
maui -ga -ru uraga a- pe mu- u -unkua -i -mundzhi -ru
2p -Erg -Top house in- open/Pfv 2p- do -2pFut -Ger -from -Top

muta muntshikwín.
mut -a munshikuin
enter -Pfv 2pImp

'After you all have opened the house (door), you can enter.'

Ripeshi (**ri-**'OblR' + **pe** 'open' + **-shi** 'Caus') literally means 'to cause something to be open to itself' and is used in the following situations: to open eyes, to fold or unfold clothes, to open a book, or to turn the pages of a book.

(171) ukwama tukagaru ime gwaka uma ripeshi
ukuama tu -ka -ga -ru ime guak -a uma ri- pe -shi
sickness see -Prtc -Erg -Top like.this say -Pfv eye OblR- open -Caus

bebia kunzushega.
bebia ku- zu -shi -ega
medicine Ben- pour -Caus -Pur

'The nurse (sickness see-er) said like this, "Open your eyes so (I can) pour the medicine in".'

(172) raga ranzhe uruama sigamba ime ugwia munkusara
ra -ga ra -zhe uruama siga -ba ime ugui -a munkusara
1s -Erg 1s -Poss spirit progeny -Obl like.this tell -Pfv clothes

ripeshi sawa twega.
ri- pe -shi saua tu -ega
OblR- open -Caus rash see -Pur

'I said like this to my child, "Fold your clothes back so (I can) see the rash".'

(173) uruama sigandzhina zhinzhoma ripe ushawa
uruama siga -dzhina zhinzhoma ri- pe u -shi -aua
spirit progeny -PL book OblR- open do -Caus -2pImp

asheshumpanega.
ashe -shi -umpan -ega
talk -Caus -Incp -Pur

'Children, open your books so (we) can begin to read.' (Literally: 'Offsprings, open the book so it will start to talk.')

(174) zhinzhoma sengwazi ripeshi
zhinzhoma sen -guazi ri- pe -shi -i
book slowly -Intens OblR- open -Caus -Ger

'He is turning the pages slowly (opening the book).'

In an extension, **ishpeshi** is used to mean 'to wash or clean a wound'. Since to clean a wound necessitates the opening of it, this is a means for end metaphor.

(175) ukwama tukandzhinaru ingwi uruama siga terua kwa
ukuama tu -ka -dzhina -ru ingui uruama siga terua kua
sickness see -Prtc -PL -Top one spirit progeny man or

mena kokuma aweru—
mena ko -kub -a u -a -i -ru
woman cut -UnsAg -Pfv do -Pfv -Ger -Top

kokumanunkamba wandukwega
ko -kub -a -nun -ka -ba uandu -kua -ai -ka
cut -UnsAg -Pfv -be -Prtc -Obl dirty -exist -Advzr -Prtc

ishpeshi
i- zhi- pe -shi -i
upon- 3pS- open -Caus -Ger

'If a child, boy or girl, gets cut, the cut is opened by nurses (sickness see-ers) in order to clean the dirt out.'

Associated senses of 'to be open' are the result of cultural factors. For example, a Wiwa man wears his woven bag diagonally, across the opposite shoulder. In this way, the opening of the bag is stretched tight against him, effectively closing it. In order to

open his bag, he must first remove it from his shoulder. Similar considerations apply to bags on pack animals. Here, the goal or end result (opening a bag) is used for the process or means to achieve it (removing it).

(176) raga burumba mundzhi suzu kupé uragarga
ra -ga buru -ba mundzhi suzu ku- pe uraga -ru -ka
1s -Erg donkey-Obl from bag at- open/Pfv house-Top -at

unayega.
u- nai -ega
Por-go -Pur

'I took the bag off the donkey to take in the house.' (Literally: 'I opened up the bag from the donkey to take into the house.')

This extension has been conventionalized and may be used with objects that are not containers.

(177) aungémundzhi gazhú ipe angasha karusi
u -unga -i -mundzhi gazhú i- pe a- gash -a karusi
do -1sFut -Ger -from saddle upon- open 3sIO- send -Pfv sugar.cane

kuzhiko akawa aguni duma nekega
ku- zhi- ko a- kau -a aguni duma nek -ega
Ben- OblR- cut 3sIO- give -Pfv litte.more strength become -Pur

'Afterwards I take off the saddle and send him chopped up sugar cane in order to give him a little more strength.'

The sense 'to remove' can refer to removing water after bathing; this usage involves **nun-** 'SO' (Shared Orientation).

(178) homa awemundzhi munkusaramba dzhira
hob -a u -a -i -mundzhi munkusara -ba dzhira
bathe -Pfv do -Pfv-Ger -from clothes -Obl water

numpeshi
nun- pe -shi -i
SO- open -Caus -Ger

'He bathed and then is drying himself (removing the water) with a cloth.'

Pe in its meaning 'to remove' is used for the picking up of fruit that has fallen, the gathering of eggs, or the removal of garbage.

(179) ranzhdugagaru karga mangu peshi
ra- zhi- duga -ga -ru kan -ru -ka mangu pe -shi
1s- Poss- brother-Erg -Top ground-Top -at mango open -Caus

nukwen.
nuk -kua -in
be -FP -CK

'My younger brother picked up the mangoes from the ground.'

(180) shibunkwanzhe tera peshi nukwín.
shibunkua-zhe tera pe -shi nuk -ku -in
chicken -Poss egg open -Caus be -1sMedl -CK

'I gathered the eggs.'

(181) manzhbusiru kayuma peshi nukwunka warún.
ma- zhi- busi -ru kaiuma pe -shi nuk -unka warun
2s- Poss- sister -Top garbage open -Caus be -Fut IndefFut

'Your younger sister will someday remove the (pile of) garbage.'

Since the world is thought of as a container, it can be opened and shut. A ceremony done at a Wiwa funeral, 'the opening of the earth', involves the moving of dirt from one place to another (Reichel-Dolmatoff 1974). Since the floor of a Wiwa house is made of dirt, sweeping also involves the removal of the top layer. Therefore 'opening the earth' can mean 'to sweep' and is also used for chicken scratching.

(182) minduna uyé ra uragamba zhapeshi?
mi- dun -a u -iá -í ra uraga-ba zha- pe -shi -i
2sIO-serve -Pfv do -Medl -Q 1s house-Obl UnsO- open -Caus -Ger

'Do you want me to sweep the house?'

Two nominalized forms **zhapeshka** 'sweeper' and **zhapekuna** 'broom' are used in example (183).

(183) menadzhinaru uragamba zhapeshka.
mena -dzhina -ru uraga-ba zha- pe -shi -ka
woman-PL -Top house-Obl UnsO- open -Caus -Prtc

zhapeshegaru zhapekuna kuma nawa
zha- pe -shi -ega -ru zha- pe -kuna kuma naua
UnsO- open -Caus-Pur -Top UnsO- open -place.of InfW need

kakuneka na.
ka- ku- nek -ka na
3pDO- Ben- become -Prtc be

'Women are sweepers in the house. In order to sweep they need a broom.'

When referring to a human being, **pe** means 'to be attentive'. This is based on the body as a container metaphor, and is similar to the English expression 'to be open'.

(184) abugaru imé mugwiakwaga. pe neshi kuma
abu -ga -ru ime mu- gui -akua -ka pe nek -i kuma
mother -Erg -Top like.this 2s- tell -Obg -Prtc open become -Ger InfW

ha mugagwanawinunka.
ha mu- ga- guan -aui -nun -ka
angry 2s- 3pS- think -NAP -be -Prtc

'Mother says to you like this, "Be attentive (and) people will never get upset with you".'

Table 12 Spatial Relation: pe '(be) open'

Expression	Sense	Basis for extension
ishpeshi to cause to open upon	to clean a wound	means (to open) for end (to clean the wound)
kupe to open at	to remove (a shoulder bag)	end (to open a bag) for means (to remove it)
numpeshi to cause to open from self in same orientation	to dry oneself	means (remove water) for end (dry)
peshi to cause to be open	to pick up (fruit), (eggs), (garbage)	generalized use of 'removal' with other items
zhapeshi to cause (whatever) to be open	to sweep	earth is a container which can be opened by removal of dirt
zhapeshka one who causes (whatever) to be open	sweeper	earth is a container which can be opened by removal of dirt
zhapekuna part that opens	broom	earth is a container which can be opened by removal of dirt
pe neshi to cause to become open	to be attentive	body is a container, face (with its sensory organs) is its opening, information 'enters' the body

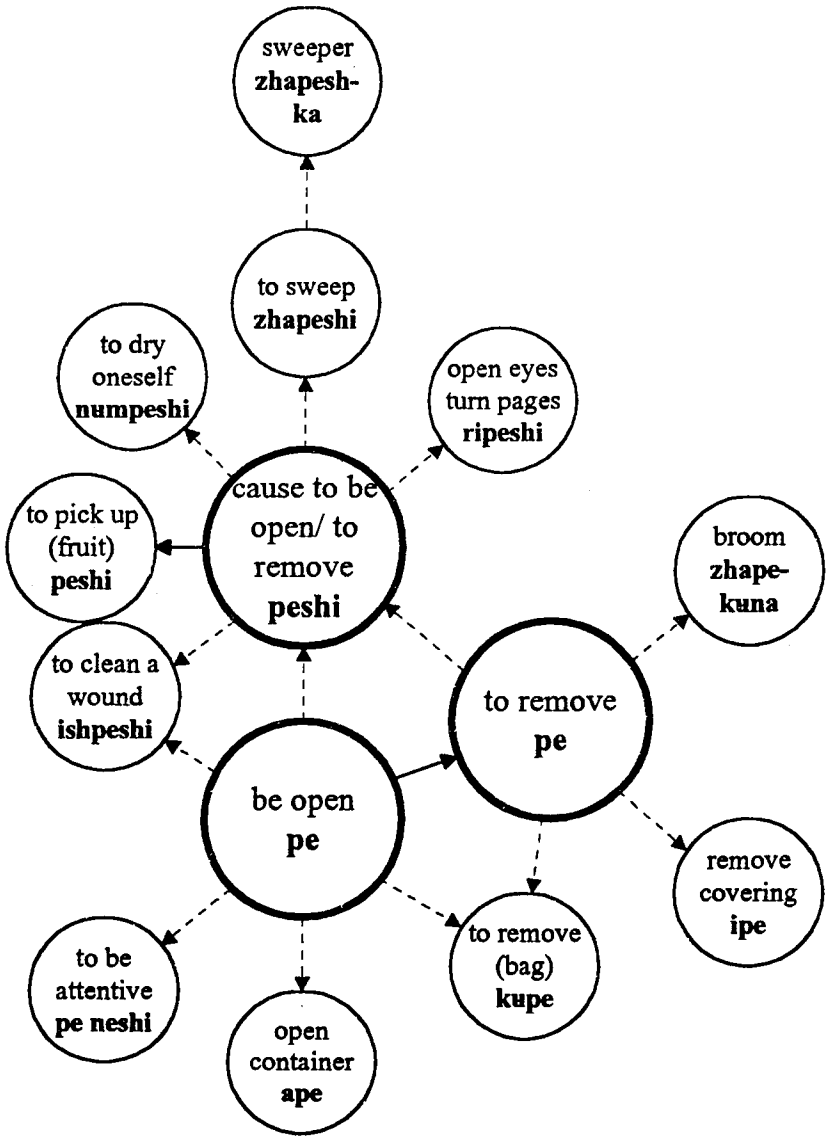

Figure 11 pe '(be) open'

It has been seen in this chapter that the encoding of orientation or spatial relations appears to be a characteristic of the verbal system in Damana. The verbs in this chapter have been shown to extend the following spatial relations: down in (**yu**), hung arched (**bi**), ahead/behind (**soz**), wrapped (**ma**), and open (**pe**). The verbs of Chapter 5 and 6 are

not different class verbs, but are part of a natural group of verbs in Damana that express spatial relations.

CHAPTER 7
CONCLUSION

I conclude that Damana does not have a nominal classification system. Aside from cases in which the placement of an object is in its prototypical orientation, there is little similarity between other nominal classification systems and the languages of the Sierra Nevada. Verbs do have selectional restrictions that are sensitive to properties that typically figure in noun class systems, but noun classes are not created by co-occurrence constraints between the noun and the predicate. Nouns are not exhaustively grouped into a small number of classes. Verbs do not encode inherent properties of nouns that could define classes. There is also a great deal of flexibility in what verb can be used with what shaped object, indicating that this is not a rigid grammaticalized classification. A variety of semantic factors play a role in the choice of verb for a particular object. A small group of verbs (those in Chapter 5) appear sensitive to shape, but that is only because certain shaped objects are more prone to be associated with certain orientations. In Damana, unlike languages with a nominal classification system, when a verb is used that does not agree with the prototypical orientation of the noun, there is no strange or novel interpretation, but just the description of the spatial orientation.

The categorization of spatial relations is a natural consequence of interaction with a physical environment. By means of a semantic analysis using patterns of metaphorical extension to illustrate core senses, I have shown that orientation verbs reference spatial relations and other verbal properties. The verbs in Chapter 6 show that it is a language tendency to encode spatial relations in the verbal system. The prototypical meaning of all the verbs discussed have at their core a spatial relation that is used as the basis for extensions; therefore, spatial relations are what is being categorized.

This thesis serves to demonstrate the beauty of human categorization and provides a glimpse into how one isolated group, the Wiwa, have categorized their world to better understand it.

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