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**TYOLOGY OF PLURACTIONAL CONSTRUCTIONS IN THE  
LANGUAGES OF THE WORLD**

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# List of Abbreviations

1	1st person
2	2nd person
3	3rd person
I	Active for non-past (Khwe)
I	Agreement prefix of agreement pattern one (Eton)
II	Active for past
+	Affermative polarity series
A	Subject of transitive verb
ABL	Ablative
ABS	Absolutive
ACC	Accusative
ACT	Actor
ACT1	Actual
ADN	Adnominalizer
ADV	Adverb
AEO	Absence of explicit object
AG	Agent like
ALLEG	Allegation
ANAPH	Anaphoric
AND1	Andative singular intransitive
AND2	Andative nonsingular, singular transitive
AN.INVIS	Animate demonstrative pronoun invisible/distal singular

AOR	Aorist
ART	Article
ATBZ	Attributilizer
ATTR	Attributive
AUG	Augmentative
AUX	Auxiliary
AWAY	Andative/Away
B	Gender agreement marker
BEN	Benefactive
CAUS	Causative
CL	Classifier
CN1	Connective 1
CN2	Connective 2
CNJ	Coordinating conjunction
COMP	Completive
COMPL	Completeness
CON	Construct case
COORD	Coordinator
COP	Copula
CSL	Causal
CVB	Converb
CVB.ANT	Anteriority converb
CVB.MNR	Manner converb
CVB.SMLT	Simultaneity converb
DAT	Dative
DEF	Definite
DEM	Demonstrative
DEP	Dependent clause
DET	Determiner
DIR	Directional

DISCN	Discontinuous
DISTR	Distributive
DLMT	Delimitative
DU	Dual
DUR	Durative
EM	Emphatic
EP	Epenthetic
ERG	Ergative
EV	Direct evidential
EXC	Exclamation
EXCL	Exclusive
F	Feminine
FOC	Focus
FREQ	Frequentative
FUT	Future
G	Suffix or infix that occurs in several TAM-forms (Eton)
GEN	Genitive
GL	Goal
HAB	Habitual
HSY	Hearsay
ID	Dependent initial
IMP	Imperative
IMPS	Impersonal
INAC	Inaccompli
INAN	Inanimate
INC	Incompletive aspect
IND	Indicative
INDF	Indefinite
INF	Infinitive
IN.INVIS	Inanimate demonstrative pronoun distal invisible

INST	Instrument
INT	Intensive (pluractional)
INTERIOR	Interior
INTR	Intransitive
IP	Immediate past
IRR	Irrealis
ITER	Iterative
JUS	Jussive
L	Low (tone)
L	Linker (Enumeration)
LOC	Locative
LV	Locative voice
M	Masculine
MID	Middle
MULT	Multiplicative
n	Non-eyewitness
N.AC	Action noun
N.AGN	Agent noun
NE	Non-Euchee
NEG	Negative
NEGPOT	Negative potential
NIPL	Instrument nominalization plural
NOM	Nominative
NMLZ	Nominalizer/nominalization
NON.SG	Non-singular
NONSPEC.I	Non-specific aspect, intransitive stem
N.PF	Non-perfect
NPPR	Non-final form of the personal pronominal
NR	Non-realis (subject-modality clitic)
OBL	Oblique

OBJ	Object
ONE:MVMT	One movement (singulactional)
OPT	Optative
ORD	Ordinal
OUT	Out
PASS	Passive
PAT	Patient like
PF	Perfect
PFV	Perfective
PFX	Prefix
PHO	Phoric
PL	Plural
PL2	Plural2
PLAC	Pluractional
PLUS	[+ participant] valence prefix
POSSC	Controlled possession
PP	Perfective particle
PP2	Completive particle
PPERF2	Intermediate past-perfective
PR	Plurality of relations
PRED	Predicator
PRO	Pronoun
PROG	Progressive
PRS	Present
PRSU	Tense present uncertain
PRTCPL	Participial
PS	Caseless personal marker
PSR	Possessor
PST	Past
PUNC	Punctual

PX	Proximal/proximity
Q	Interrogative particle
R	Realis
R	Reflexive/reciprocal
RECP	Reciprocal
RED	Reduplication
REFL	Reflexive
REI	Reiterative
REL	Relator
RELNR	Relative nominalizer
REPEAT	V repeatedly
RM.PST	Remote past
RSLT	Resultative
S	Intransitive subject function
SBJ	Subject
SBJN	Subjunctive
SFOC	Subject focus
SG	Singular
SIML	Similitive
SOF	Softener
SRC	Source
SS	Same subject marker
SSSA	Simultaneous event, same subject, A orientation
SSSS	Simultaneous event, different subject, S orientation
ST	Stative series
STA	State (verbal)
STYLE	Stylistic
SUB	Subordinator
(SV.)	Subject-verb relation (downstep not audible)
T	Target

TOW	Towards subject
TOWARD	Venitive/Toward
TR	Transitive
TRNSF	Transformative
UNCRTN	Uncertain
V	Verb
V	Gender agreement marker/gender class
VBZ	Verbalizer
VENT	Venitive
WP	Witnessed past tense
YIMPF	Hesternal past form of the imperfective auxiliary (Eton)

# 1. Introduction

## 1.1 Preliminaries

The main goal of the present work consists in providing a first typological account based on a large-scale comparison, that is, analyzing a large number of languages, of the phenomenon known as *pluractionality* in the languages of the world.

The category of *number* is one of the less studied phenomenon in modern linguistics.

Corbett (2000) notes that:

“Number is the most underestimated of the grammatical categories. It is deceptively simple, and is much more interesting and varied than most linguists realize”

(Corbett 2000:1)

However, after the publication of the monographic volume of Corbett, in last two decades, the number of studies concerning number and related issues has consistently increased.

Nevertheless, the attention of linguists to this phenomenon remains marginal compared to other nominal categories, such as case and gender.

Despite the increasing of linguists' attention to number, there is a particular phenomenon of such 'category' that did not benefit of this popularity, that is, *verbal number*.

Corbett (2000:2) states that number does not affect only entities (and thus, nominals): in several languages of the world, a distinction that in some way concerns number involves also verbs. The verbal markers that express this distinction add a number value to the verb. This phenomenon does not seem to correspond to the syntactic agreement between a noun phrase and the verb. In this last case, the number marker applied to the verb conveys a redundant marking of nominal number, and, in our case, the marker modifies the number value of the verb itself. This particular phenomenon is known with several labels, such as 'verbal number (or plurality)', 'event plurality', 'pluractionality', 'iterativity', 'plurality of relations', and so on. We opted for the term *pluractionality* because its morphology reveals its meaning (plural + action), and because, in the last years, the use of this term has increased.

One of the first scholars that explicitly recognized this phenomenon was Otto Jespersen, who notes in his grammar of English:

“If the plural of one walk or one action is (several) walks, actions, the plural idea of the corresponding verb must be ‘to undertake several walks, to perform more than one action’. In other words the real plural of a verb is the corresponding frequentative or iterative verb.”

(Jespersen 1949:184)

For example, if we look at the sentences of English (Indo-European, Germanic) in (1), we can note that the only element that distinguishes (1a) from (1b) is the adverbial phrase *several times*.

- (1) a. *John kicks the ball*  
b. *John kicks the ball several times*

This additional element marks a plurality of actions, i.e. an action that is performed more than once. In the case of (1), it consists with an agent that kicks to the ball several times.

The present work investigates this phenomenon in cross-linguistic perspective, through the analysis of a sample of 241 languages.

In next sections, we will briefly provide the preliminary notions and issues that are necessary to better understand next chapters.

## 1.2 What is pluractionality?

The term *pluractionality* was coined by Newman (1980) in a paper on the classification of Chadic languages within the Afro-Asiatic family:

“Greenberg (1952) correctly drew attention to the general Afroasiatic nature of such verb forms [i.e. intensive], but incorrectly described them as belonging to the aspect system rather than to the verb derivational system. In my opinion these verb forms represent, not ‘Present’ stems, but rather iterative, habitual, intensive, or, what I prefer to call, ‘pluractional’ stems.”

(Newman 1980:13)

Newman created this new term to describe a set of constructions that was formerly called *intensive* in Chadic grammatical tradition. However, these stems mark several functions in addition to intensity, and these ones are mainly connected with the notion of plurality. Thus, Newman decided to coin

a new term in order to better describe the functions that these constructions express.

The first definition of pluractionality was provided by Newman too. In his work that explores nominal and verbal number in Chadic languages, he suggests the following definition:

“the essential semantic characteristics of such verbs [pluractionals] is almost always plurality or multiplicity of the verb’s action”

(Newman 1990:53)

In other words, *pluractionality* marks the number of times an action is done, that is, if a verb encodes a single (singular) or a multiple (plural) action.

For example:

(2) Beng (Mande, Eastern Mande)

a. *Ǿ* *bè-éló.*  
3SG:ST+ run-PROG

‘He is running’

(Paperno 2014:41)

b. *Ǿ* *bè~bé-éló.*  
3SG:ST+ run~ITER-PROG

‘He is running (repeatedly back and forth)’

(Paperno 2014:41)

As in (1), also in (2) there is only one element that distinguishes the sentence in (2a) from the one in (2b), that is, the reduplication of the verb ‘to run’. This modification gives a plural meaning to the verb; in other words, while the action is done only once in (a), it is done more than once in (b).

In this work, we will adopt a slightly different definition compared to the one proposed by Newman (1990). Our definition of pluractionality is the following one:

Pluractionality is a phenomenon that marks the plurality or multiplicity of the situations (i.e. states and events) encoded by the verb through any morphological mean that modifies the form of the verb itself

Compared to Newman (1990)'s definition, we added an additional element. This consists in signaling overtly the locus of marking. The reason why Newman did not explicitly express this aspect is because, in Chadic languages, pluractionality is always marked through the reduplication of the verb stem and, consequently, he had no need to mention it explicitly. However, in a cross-linguistic study, this clarification is fundamental. This is because it allows to distinguish different, but similar phenomena. On this matter, Cabredo-Hoffher & Laca (2012) single out an important distinction:

“We consider under the term EVENT PLURALITY [i.e. verbal number] any linguistic means of expressing a multiplicity of events, be they verbal markers (re-read), adverbials (twice, often, always, again), or adnominal markers (John lived in different countries, each boy built a canoe, John repaired several bicycles). We use the term VERBAL PLURALITY more narrowly for event plurality marked on the verb. Following the usage in the literature we refer to markers of verbal plurality as PLURACTIONAL MARKERS.”

(Cabredo-Hofherr & Laca 2012:1)

Thus, it is now clear that pluractionality is a specific instance (a sub-type) of the wider phenomenon *verbal number*. While verbal number marks plurality of events through any strategy (adverbs, adnominal markers, verbal markers, etc.), pluractionality marks it only modifying the form of the verb.

### 1.3 Previous studies

As was noted in previous section, pluractionality is one of the less studied phenomenon. However, we can recognize at least three important analyses on this topic (or strictly related phenomena) that can be useful for the present work. They are: Dressler (1968), Cusic (1981), and Xrakovskji (1997a).

It is important to say that none of these works is directly focused on the description of pluractionality, but they analyze phenomena that are particularly relevant for the topic of this thesis.

Dressler (1968) is the first monograph that investigates verbal plurality. The author examines the semantic domain of verbal plurality analyzing some ancient languages (such as Latin, Hittite, Ancient Greek, etc.). On the other hand, Cusic (1981) is probably the most influent work in this field, it deals with the relationship between verbal number and aktionsart/aspect. Finally, Xrakovskji (1997a) is the introductory chapter of a miscellaneous volume that explores iterative constructions in about twenty languages (cf. Xrakovskji 1997b).

In addition to these three studies, there are also other essays on verbal number/pluractionality, but of a less theoretical relevance. In any case, we will briefly present some significant, though secondary, works, such as: Corbett (2000:243-264), Wood (2007), and Součková (2011).

### 1.3.1 Dressler (1968)

Dressler (1968) is the first investigation that focuses on verbal plurality. The author gives a comprehensive account of the functional domain of plural markers on verbs.

Dressler (1968) describes verbal plurality as a case of lexical aspect. This choice is explained through the awareness that, in truth, we are dealing with something that cannot be easily described through the category *aspect*. This is something that is particularly evident whether we observe the distributive parameter singled out by Dressler.

The author recognizes four different *Aktionsarten* that can be further subdivided in a (long) list of types:

- ITERATIVE AKTIONSART: multiple actions that are simply recognizable as plural; it can be divided in: (i) discontinuative, (ii) repetitive, (iii) duplicative, (iv) reversative, (v) frequentative, (vi) conative, and (vii) alternative;
- DISTRIBUTIVE AKTIONSART: actions distributed on different participants and/or locations; it can be divided in: (i) subject distributive, (ii) object distributive, (iii) dispersive, (iv) diversative, and (v) ambulative;
- CONTINUATIVE AKTIONSART: actions that are continuous in time or prolonged; it can be divided in: (i) usitative, (ii) durative, and (iii) continuative;
- INTENSIVE AKTIONSART: actions that are more or less intensive; it can be divided in: (i) intensive proper, (ii) attenuative, (iii) accelerative, (iv) exaggerative, (v) pejorative, (vi) asseverative.

There are two outcomes of Dressler (1968) that can be considered very important. First, he is the first one that recognizes such a large

multifunctionality, a domain that seems to cross the boundaries of grammatical aspect. For this reason, Dressler decides to describe this phenomenon proposing several ‘values’, and, in particular, he was able to catch two functional domains that no one had previously found, that is, distributive and intensive Aktionsarten.

At the same time, this description gives too importance to all semantic shades that pluractional markers show in the languages of his sample. This leads to a proliferation of functions that makes hard to achieve some typological generalizations.

In any case, we will see that the pioneer work of Dressler (1968) has influenced several successive works. Specifically, some good intuitions of Dressler (1968) were, then, re-analyzed and studied more deeply by Cusic (1981).

### 1.3.2 Cusic (1981)

Cusic (1981) is undoubtedly the study that has had the widest influence on works on verbal number and pluractionality. This doctoral dissertation consists in a theoretical study on the semantic relationship between verbal plurality and other verbal categories, specifically aspect and aktionsart. The author retrieves several elements of Dressler (1968) and broadens the analysis studying deeply and redefining some aspects.

There are some relevant innovations in Cusic (1981), and, probably, the most important is the introduction of the distinction between *event-internal* and *event-external plurality*.

In his work, Cusic proposes to analyze verbal plurality through four different parameters:

“The parameters that I will use are:

- a. The phase/event/occasion parameter, for distinguishing between internal and external plurality;
- b. a relative measure parameter, for relating event plurality to the generalized plural functions described in the previous chapter [i.e. the functions that verbal plurality can encode cross-linguistically];
- c. a connectedness parameter for relating event plurality to the mass/count distinction;
- d. a distributive parameter, for relating plurality to temporal and spacial extension, and to number in associated noun phrases.”

(Cusic 1981:76-77)

Cusic (1981) decides to use these four parameters because, in his opinion, only crossing them we can explain why verbal plurality shows such high variety of functions.

Like Dressler (1968), he lists several functions that pluractional constructions can express.

“What is noteworthy about plural verb [...] is that it may serve to indicate not only the repetition of an action [...], but a whole range of other plural meanings: repetitiveness, repeated occasions and events, persistent consequences, habitual agency, distributed quality, inchoativity, cumulative result, intensity, plurality of sites of action, duration, continuity, conation, distribution, celerativity/retardativity, augmentation, diminution”

(Cusic 1981:74)

We have found several of these functions too, and they will be explained in next chapter. However, some of them are not completely clear. Cusic does

not explain why they are in the list and, in addition, he does not provide sufficient examples.

Cusic (1981) considers ‘verbal plurality’ almost only in a semantic and functional way, therefore, there is a partial difference in the definition that he uses and the one adopted in this thesis. While Cusic (1981) considers all the linguistic means that mark multiplicity of actions (i.e., verbal number), we investigate only the devices that modifies the verb (i.e., pluractionality)<sup>1</sup>.

Among the parameters proposed by Cusic, the *event ratio* one is the most important.

Cusic (1981) theorizes the existence of a three-level system. Verbal plurality consists in: (i) plurality in events, i.e. “INTERNAL PLURALITY or imperfectivity in the sense of internal structure of the event” (Cusic 1981:61); (ii) plurality of events, i.e. “EXTERNAL PLURALITY or iterativity in the sense of a series of perfective or imperfective actions” (Cusic 1981:61); (iii) and, finally, plurality in and of events, i.e. “both of these combined” (Cusic 1981:61).

For example:

### (3) Ratio Parameter (Cusic 1981:61)

- a. Plurality in events: “The mouse nibbled and nibbled the cheese”
- b. Plurality of events: “The mouse bit the cheese again and again”
- c. Plurality in and of events: “The mouse was always nibbling at the cheese”

These three types can be classified in two higher classes: (i) the type in (3a) (plurality in events) can be called *EVENT-INTERNAL PLURALITY*; and (ii) the types in (3b-c) (plurality *of* and *in-and-of* events) can be called *EVENT-EXTERNAL PLURALITY* (Cusic 1981:61). The distinctive trait of these two classes lies in: (i) a single event that shows some internal complexities (event

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<sup>1</sup> This difference can probably explain why the semantic domain studied by Cusic (1981) seems to be much wider than the one described in Chapter 2.

internal plurality) vs. (ii) an event (complex or not) that is externally repeated (event external plurality). Cusic (1981:78) states that in the first class we find ‘repetitive action’, while in the second class we find ‘repeated actions’. This issue will be analyzed in chapter 2.

The other parameters are less central in Cusic’s discussion on verbal plurality. The *relative measure* parameter considers the ‘amount’ of the action. In other words, it considers the number of times the event is repeated (few times vs. several times), the ‘size’ of the action (augmentative vs. diminutive), the effort employed in the situation (intensive vs. diminutive), etc.

The *connectedness* parameter considers “the relative prominence of bounds at the phase and event levels” (Cusic 1981:96), in other words the relative connection between the ‘phases’ or ‘events’ of a plural action. This parameter “does not provide clear-cut categories of meaning, but it is more suggestive of a continuum” (i.e. more-connected vs. less-connected) (Cusic 1981:96).

Finally, the *distributive* parameter affects the ‘distribution’ that an action can have in space and time: “The general idea of distribution is separation in time, space, or some other way, of actor from actor, action from action, object from object, property from property, and so on” (Cusic 1981:102).

In conclusion, the most important result of Cusic (1981) consists in the introduction of the distinction between event-internal and event-external plurality. This distinction played and plays a pivotal role in works that deal with verbal plurality.

### 1.3.3 Xrakovskij (1997a)

Xrakovskij (1997a) is the theoretical introduction that opens the miscellaneous volume in Xrakovskij (1997b)<sup>2</sup>. In this work, the author

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<sup>2</sup> This volume is the translation of Xrakovskij (1989).

investigates the semantic classification of ‘iterative constructions’, i.e., constructions that express a plurality of situations.

Xrakovskij (1997a) recognizes two different parameters to categorize iterativity that he calls ‘attributes’. Each attribute is composed of two different values.

The first attribute is similar to the event ratio one of Cusic (1981)<sup>3</sup>, that is, the distribution of plural events on the same occasion or on different occasions:

“Attribute I: value Ia: a plurality of repeated situations P1, P2, ...Pn occurs at one period of time T; value Ib: each of the repeated situations belonging to the plurality exists at a separate period of time (i.e. situation P1 occurs at period T1, situation P2, at period T2, ..., situation Pn, at period Tn). This classificatory attribute demonstrates the crucial role of the interrelation between a plurality of situations and the periods of time at which these situations occur.”

(Xrakovskij 1997a:26)

The second parameter connects plurality of actions with participant plurality, that is, if the plural events is performed by the same (group of) participant(s) or by different (group of) participant(s):

“Attribute II: value IIa — identical sets of actants take part in each of the repeated situations belonging to the plurality; value IIb — the sets of actants taking part in each of the repeated situations are not completely identical (i.e. there is at least one nonidentical actant in every situation; nonidentical actants of the situations P1,

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<sup>3</sup> It is important to note here that Xrakovskij (1997a) does not cite the work of Cusic (1981).

P2, ..., Pn are individual representatives x1, x2, ..., xn/y1, y2, ..., yn/ z1, z2, ..., zn of a compound actant X/Y/Z common to all situations). This feature of classification indicates the primary importance of the interrelation between the plurality of situations and the participants (semantic actants) of each of the situations.” (Xrakovskij 1997a:26)

These two parameters can be crossed to form different values that are exemplified in Table 1.

N°	Combinations of values of classificatory attributes	Realization of the combinations	Semantic type of plurality	Examples
1	Ia, IIa	+	Multiplicative (terminal)	The boy tapped at the window for several minutes; The patient coughed all night.
2	Ia, Ib	+	Distributive (terminal)	In a week's time the fox carried away all the neighbor's chicks one by one; The student is paying back his debt.
3	Ib, IIa	+	Iterative (terminal)	The boy visits his granny every year; The student pays back his debt every

				month; The patient coughs at night.
4	Ib, IIb	-	-	-

Table 1.1 – Classification of the types of situational plurality (Xrakovskij 1997a:27).

It is interesting to note that, in Xrakovskij (1997a)'s view, not all four possible types do actually exist. In his opinion, the fourth type (composed by Ib and IIb) cannot be found in the languages of the world. However, Wood (2007) notes correctly that:

“However, it does not seem to be excluded by any principle, and in fact examples can be constructed which seem to meet its definition. For example, *The fox carries one of the neighbour's chicks away every week* involves habitual repetition, distributed over distinct participants. The combination seems to be possible as long as the context permits distribution over a potentially unbounded set of participants, in order to be compatible with a habitual interpretation.”

(Wood 2007:19-20)

From this passage, we can argue another interesting issue: Xrakovskij (1997a) interprets the third type of situational plurality as habitual meanings. However, situations in which the plurality of actions is performed in different occasions but that are not habitual do actually exist. For example, the sentence *Sometimes, I go to the supermarket* encodes an action repeated in different occasion that, at the same time, cannot be considered habitual because the repetitions are not regular and typical of a specific time frame. Certainly, this issue depends on the given definition of ‘habituality’.

Probably, Xrakovskij (1997a) adopts a different definition compared to the one that we adopt. We define habituality following the definition proposed by Comrie (1976):

“The feature that is common to all habituals, whether or not they are also iterative, is that they describe a situation which is characteristic of an extended period of time, so extended in fact that the situation referred to is viewed not as an incidental property of the moment but, precisely, as a characteristic feature of a whole period. If the individual situation is one that can be protracted indefinitely in time, then there is no need for iterativity to be involved (as in *the Temple of Diana used to stand at Ephesus*), though equally it is not excluded (as in *the policeman used to stand at the corner for two hours each day*).”

(Comrie 1976:27-28)

At the theoretical level, Xrakovskij (1997a) categorizes iterative constructions as a case of lexical aspect, i.e., quantitative aspectuality (cf. Maslov 1984):

“It should be noted that some researchers speak not about the semantic fields of quantitative aspectuality but about the category of verbal multiplicity or plurality, although the empirical facts analyzed by them give no ground, in our opinion, to postulated the existence of such a grammatical category in the true sense of the term.”

(Xrakovskij 1997a:6)

The most important innovation of Xrakovskij (1997a) consists in his decision of limiting the variety of functions connected with event plurality. This choice

permits to discuss the semantic domain trying to provide also some generalizations. In general, rich classifications (such as the ones proposed by Dressler 1968 and Cusic 1981) can create misunderstandings and, usually, they do not provide results that are useful for the general theory, but that are ends in themselves. On the other hand, a narrow classification can exclude some interesting elements and it does not show the real richness of a phenomenon. For these reasons, we will adopt a different approach to describe the semantic domain of pluractional constructions (cf. Chapter 2).

#### 1.3.4 Other studies

In addition to the works that have been briefly presented in previous sections, there are some other studies that deserve to be mentioned. They are: Corbett (2000), Wood (2007), and Součková (2011). Each work presents some interesting innovations or proposals.

As was already noted, Corbett (2000) is the most important typological investigation on the linguistic category of number. The author focuses mainly on the most famous phenomenon of this category, that is, nominal number. However, he provides also a sketchy presentation of verbal number. Corbett does not identify the difference between verbal number and pluractionality, but it is evident that he considers ‘verbal number’ in the sense of verbal plurality marked on the verb<sup>4</sup>.

Corbett highlights the fact that pluractionality does not entail only a plurality of situations, but also a plurality of participants. He draws his attention

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<sup>4</sup> Corbett (2000) does not explicitly note the locus of marking in his definition. In any case, he states that “in all the examples we have considered, verbal number is expressed on the verb: I have been unable to find examples of verbal number being expressed on the noun phrase” (Corbett 2000:251).

primarily on the identification of different types of ‘verbal number’: *event-* and *participant-number*. The main consequence is that he does not merely concentrate on a single parameter of variation (i.e., time or number of actions), but he gives more importance than the older works to the pluralization of entities that arises from a situation in which there is a plurality of action.

The other two studies have both a different goal compared to Corbett (2000), that is, they investigate how pluractional constructions work in specific languages. In fact, even though they present a (brief) theoretical introduction, they concentrate on the analyses of this phenomenon in specific languages. They provide very important descriptions of pluractionality in three different languages: Wood (2007) examines Yurok (Algic) and Chechen (Nakh-Daghestanian, Nakh), while Součková (2011) analyzes the structures of Hausa (Afro-Asiatic, Chadic). Both studies are important because they offer several examples and deep investigations on this phenomenon, that is, (something that usually lacks. However, at theoretical level, they seem not to add any particular innovations. Nevertheless, this kind of descriptive works must be encouraged because often we do not have enough data on this phenomenon and, very often, the descriptions are not as fine-grained as pluractionality deserves.

#### 1.4 Some issues on the cross-linguistic comparison of pluractional constructions

In linguistics, the researcher must tackle several types of problems, some of them are general, but others are connected to specific phenomena.

One of the most important problem in the study of pluractionality is the lack of a common terminology. Indeed, each of the few studies described in

previous sections propose its own set of terms. This situation has led to some relevant consequences.

Corbett (2000) notes:

“Unfortunately the lack of agreed terms has led some to consider it as being geographically restricted, whereas similar systems are found widely distributed, though referred to by different names”.

(Corbett 2000:264)

The absence of common terms has conducted to a lack of works creating a sort of circular problem: no common terms, no recognition of the phenomenon, and no studies. Even though there were some important innovations in the field of aspect and actionality during last decades, the study of event plurality did not attract the attention of linguists.

The terms used in this thesis will refer to specific meanings and phenomena and we will try to propose definitions that are as clear as possible. In addition, we will try to use the terms that already exist to avoid a proliferation of a new and ambiguous terminology. Specifically, we will adopt mainly the terms and definitions proposed in Bybee, Perkins & Pagliuca (1994). This decision is raised from two facts: (i) this is one of the most important and most cited reference for verbal categories, i.e., the definitions adopted by the authors are generally already known; (ii) they provide very precise and clear definitions. An additional terminological problem comes out from the differences among our terms and the ones adopted by the grammars or descriptions to which we will refer. For this reason, we adopt a convention that was firstly proposed by Comrie (1976) and that permits to distinguish the language-specific terms from the cross-linguistic ones:

“To avoid confusion between language-particular categories and semantic distinctions defined independently of any particular

language, in this book the policy has been adopted of using an initial capital for the names of language-particular categories, whether referring to the category as such or to forms that belong to that category, while not using initial capitals for language-independent semantic distinctions.”

(Comrie 1976:10)

At the same times, this solution allows to maintain the terms of the original references and to refer to general notions without any misunderstandings.

The peripheral position that pluractionality has in linguistics has raised another problem: often, in descriptive works and grammars the data on pluractional constructions are not fine-grained. Since this field is almost completely unexplored, some important distinctions made in our investigation can appear irrelevant (or not recognized) to grammarians.

## 1.5 The functional-typological approach

Croft (2003) singles out that the term *typology* can have three different connotations in linguistics: (i) in the sense of ‘typological classification’, that is, “a classification of structural types of languages. In this definition, a language is taken to belong to a single type, and a typology of languages is a definition of the types and an enumeration or classification of languages into those types” (Croft 2003:1); (ii) in the sense of ‘typological generalizations’, that is, “the study of patterns that occur systematically across languages. [...] The patterns found in typological generalization are language **universals**.” (Croft 2003:1); and (iii) in the sense of ‘functional-typological approach’, that is, “an approach to linguistic theorizing, or more precisely a methodology of linguistic analysis that gives rise to different kinds of linguistic theories [...]. This view of typology is closely allied to functionalism, the view that

linguistic structure should be explained primarily in terms of linguistic function [...]. For this reason, typology in this sense is often called the (functional-)typological approach” (Croft 2003:2).

This thesis consists in a typological study of pluractional constructions. When we say *typological* we mean all the three definitions provided by Croft (2003). This is because we have conducted a cross-linguistic analysis of a specific phenomenon (first connotation) in order to provide some typological generalizations (second connotation) that will be explained adopting the functional-typological approach, i.e., they will be interpreted considering their functional and cognitive bases.

## 1.6 The language sample

Each typological study has to deal with the problem of representativeness. It is practically impossible to investigate all the languages of the world. This happens mainly for two reasons: (i) nowadays, about 7000 languages<sup>5</sup> are attested and, consequently, there are too many languages to be investigated in a single work; (ii) because the great majority of these languages are not well described, or not described at all.

The main consequence consists in the necessity of creating a representative sample that permits to catch the greatest diversity.

There exist different types of language sample, the most important are: (i) *probability sample*, and (ii) *variety sample*<sup>6</sup>.

These two types are distinguished by their goal: while probability samples try to catch the real representativeness of the languages of the world, variety

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<sup>5</sup> Cf. Glottolog ([glottolog.org](http://glottolog.org)) and Ethnologue (<https://www.ethnologue.com>) that respectively count 7,943 and 7,102 languages.

<sup>6</sup> The present discussion is based on Croft (2003:19-28) and Bakker (2011).

samples try to maximize the linguistic heterogeneity giving less importance to ‘perfect’ balancing. In other words, the former type aims to show a situation that is as similar as possible to the one of the languages of the world; the latter aims to catch the greater number of linguistic types.

“[Probability sample] is the preferred type of sample if one wants to apply conclusions drawn from the sample directly to the population in terms of the distribution of the phenomena observed [...]. In this type of sample [i.e., variety sample] the likelihood is optimized that different values for the research variable will be attested.”

(Bakker 2011:104)

During last decades, several proposals of language sampling techniques were suggested. Nevertheless, typologists are aware that the perfect sample does not exist and, in addition, any sample is not free of possible biases.

These problems and the low number of well-described languages have led linguists to adopt another type of sample, that is, the so-called *convenience sample*. This type of sample tries to maximize the internal variety of the languages trying to maintain the balancing, but it considers also the availability of descriptions.

This last element depends on two factors: (i) the real existence of a descriptive works on a specific language; and (ii) also the practical availability of this description for the researcher.

In this work, we adopt a language sample that is composed of 241 languages. It is at the same time both a variety and a convenience sample. We have started from two pre-existing samples, that is, the 200-language sample of

World Atlas of Linguistic Structures (henceforth WALS)<sup>7</sup> and the 194-language sample adopted by Ljuba Veselinova for her chapter on “Verbal number and suppletion” within the WALS (cf. Veselinova 2005).

The editors of WALS describe the criteria and methods used to create their samples as follows:

“Maximizing genealogical and areal diversity were major considerations in constructing the 100- and 200-language samples. [...] A further consideration in choosing languages for the 100- and 200-language samples was the ready availability of detailed grammatical descriptions. In most cases, the choice of a language over genealogically related languages was based on the availability of detailed descriptions.”

(Haspelmath et al. 2005:4)

In our sample, we added some further languages to the pre-existing ones, while some others were changed. We mainly followed the principle of convenience. In fact, we have adapted the sample to both types of availability, that is, the general and the personal one. However, the substitutions followed a simple criterion: whether it was difficult to find the description for a particular language of the sample, we opted for the available description of most strict related language. This criterion was applicable in the great majority of cases and allowed us to maintain the best balance possible.

The choice of a variety (and convenience) sample was driven by the nature of the phenomenon that is under investigation in this thesis. Our aim is to offer the first large-scale cross-linguistic account of pluractional

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<sup>7</sup> The 200-language sample of WALS is available online at the following website: <http://wals.info/languoid/samples/200>.

constructions. Thus, in order to provide the most detailed description, we tried to maximize the variety of languages to catch the greatest diversity.

The full list of the languages with the relative classification of our sample is in the Appendix 1.

## 1.7 Outline of the thesis

This thesis is organized in three parts. The first part describes the cross-linguistic characteristics of pluractional constructions. Specifically, Chapter 2 tackles the functional domain of pluractional constructions. We describe the most recurrent functions that pluractional marker can encode in the languages of the world. Then, we propose a new classification of such functions trying to display them on a geometrical space, i.e., a conceptual space. This allows to investigate the semantic relationships that exist between the functions. In addition, the resulting conceptual space helps in trying to explain why pluractional constructions express certain functions.

Chapter 3 analyzes some morpho-syntactic issues concerning pluractionality. First, we show the most frequent marking strategies, and, then, we discuss some theoretical problems related to them, mainly, some problems in the identification of what can be called pluractional and, contrariwise, what cannot.

The second part provides some language-specific investigations. In Chapter 4, we present how pluractional constructions work in three different languages. They are: Akawaio (Cariban, Venezuelan); Beja (Afro-Asiatic, Cushitic); and Maa (Nilotic, Eastern Nilotic). These case studies are based on analyses conducted on extensive corpora of texts. In this way, we can both prove the validity of the cross-linguistic generalizations proposed in the first part, and study in deep three pluractional systems. This latter element permits

to discover some more details that cannot be analyzed in (large) typological works.

Finally, the third part deals with a completely new theoretical conceptualization of pluractional constructions in cross-linguistic perspective. This new model is grounded in the so called Radical Construction Grammar approach (cf. Croft 2001).

## 2. The semantic domain of pluractional constructions

In this chapter, we will present the recurrent functions that pluractional constructions can encode in the languages of the world.

When approaching pluractionality for the first time, one has to be aware that this phenomenon shows an extraordinary multifunctionality<sup>8</sup>. This peculiarity has probably increased the problem of the recognition of pluractional constructions that we have raised in the previous chapter. In addition, this multifunctionality has led different authors to create the extremely rich classifications of pluractional functions that were proposed in the literature. For these reasons, we think that a re-conceptualization of the functional domain of pluractionality is needed. In what follows, we propose a new way to describe and understand pluractional functions.

We recognize two different types of functions: the ones that actually make a specific construction a case of pluractionality (that we can call *prototypical*), and some additional functions that these constructions can encode cross-

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<sup>8</sup> In this case, I prefer to adopt the terminology used in Haspelmath (2003:212-213), that is, the terms *functions* and *multifunctionality* instead of *senses/uses* and *polysemy*. This is because the latter terms have different connotations and can lead to misunderstandings (cf. Haspelmath 2003 for a deeper discussion).

linguistically, but that at the same are not sufficient to call a construction pluractional (*non-prototypical*).

In order to better understand the complex and rich functional domain of pluractionality, the adoption of the so called *Semantic Map model* (cf. Croft 2001, 2003 and Haspelmath 2003) is fundamental. The semantic map approach is the perfect tool to show up the multifunctionality of specific phenomena. Indeed, this approach permits us to visualize simultaneously all the pluractional functions on a geometrical space and, in addition, the arrangement that they have on the map can tell us something about their semantic relationship.

Before presenting the functions and their geometrical disposals, it is better to briefly present the (simple) theory of event that we adopt in this work.

## 2.1 A brief theory of events

The theory of events that we adopt in this work mainly follows the one proposed by Cusic (1981). In particular, we consider the phase/event/occasion parameter (Cusic 1981:77) fundamental for any work on verbal plurality. This parameter accounts for the structure of the events and their correlation with event plurality. However, the event represents only one of the parts that make up a situation.

At this point, it is mandatory to make some considerations about the terms that we use and their definitions.

Unfortunately, a long list of terms has been used in the theory of events (such as *situation*, *state of affairs*, *event*, *occasion*, *state*, *action*, *process*, and so on) and almost each contributor has given his own definition.

In this thesis, the terms adopted have a specific meaning. They mainly refer to the *definitions* that we can find in the literature, but, sometimes, it happens that we use a term with a *new* connotation. In what follows, we will briefly

explain the necessary terminology and the definitions that we give of each of the terms.

We use the term *occasion* to encode a specific time frame in which a situation (i.e., a state or an event) occurs in a (specific) place involving particular participants.

Following the definition given by Lyons (1977), the term *situation* is the hyperonym of both states and events:

“There is, unfortunately, no satisfactory term that will cover states, on the one hand, and events, processes and actions, on the other. We will use the term situation for this purpose.”

(Lyons 1977:483)

There is a small, but fundamental, difference between *occasion* and *situation*: while the former considers all the elements that are present in a particular happening (i.e., participants, locations, and the events or states encoded by the predicate), the latter is the cover term only for the *predicative* part of the occasion, that is, the *action* in its widest sense (states and events).

By *states*, we intend the classical definition:

“A static situation (or state-of-affairs, or state) is one that is conceived of as existing, rather than happening, and as being homogeneous, continuous and unchanging throughout its duration.”

(Lyons 1977:483)

On the other hand, an *event* is what Lyons (1977) calls a dynamic situation, that is:

“A dynamic situation [...] is something that happens (or occurs, or takes place): it may be momentary or enduring; it is not necessarily either homogeneous or continuous, but may have any of several temporal contours; and, most important of all, it may or may not be under the control of an agent.”

(Lyons 1977:483)

In this context, the phase/event/occasion parameter of Cusic (1981) identifies three different levels in which a situation can be pluralized:

- (i) the phase level points out a plurality that is *within* the situation, e.g. *the man is whistling* (several whistling forming a single event);
- (ii) the event level points out a plurality of the situation that occurs in a single occasion, e.g. *the man is whistling several times/continuously* (several whistling events performed repeatedly);
- (iii) the occasion level points out a plurality that is displayed on several occasions, e.g. *the man whistles (several times)* (several whistling events performed frequently, but not repeatedly in a strict sense).

## 2.2 Pluractional functions

As we have stated previously, the first useful distinction in the functional domain of pluractional constructions is between *core* and *additional functions*.

By *core functions*, we intend those semantic traits that are mandatory to call a construction *pluractional*, i.e. meanings whose presence or absence make a

form pluractional or not.

By *additional functions*, we intend those recurrent semantic values that pluractional constructions can encode in addition to the core ones.

Usually, these additional functions show a connection with the notion of plurality that can be both more or less direct.

### 2.2.1 Core functions

An occasion is mainly composed of four elements: a *participant* (that can be singular or plural) that usually is the agent/patient/experiencer of a certain *situation* that is temporally posited in a particular *time frame*, and these elements are usually located in a *location*. In other words, a prototypical occasion involves an event or state performed by an agent or a patient or an experiencer in a specific place and time frame.

As we have already noted in the previous section, in order to talk about pluractionality, what is mandatory is the plurality of the situation marked directly on the verb. Nonetheless, this does not mean that the other elements must be singular. It is not uncommon that a plurality of situations also involves a plurality of participants or places.

Thus, we can recognize at least three different types of pluractionality depending on which element of the occasion is pluralized.

- (i) pluractionality *stricto sensu*: plurality of situations through time. They can be sub-divided into iterativity and frequentativity;
- (ii) distributivity: plurality of situations *and* places;
- (iii) participant plurality: plurality of situations *and* participants.

### 2.2.1.1 Pluractionality *stricto sensu*

We call pluractionality *stricto sensu* those occasions in which there is only a pluralization of the situation. This means that the event or state involved is done more than once. In these cases, only the situation is pluralized.

For example:

(1) Konso (Afro-Asiatic, Cushitic)

- a.    *ʔifa-ʔ*                    *ʔinanta-siʔ*                    *ʔi=tuGʕuur-ay*  
3SGM.PRO-NOM    girl-DEF.F/M                    3=push[SG]-PFV[3M]

‘He pushed the girl.’

(Ongaye 2013:263)

- b.    *ʔifa-ʔ*                    *ʔinanta-siʔ*                    *ʔi=tu-tuGʕuur-ay*  
3SGM.PRO-NOM    girl-DEF.F/M                    3=PL-push[SG]-PFV[3M]

‘He pushed the girl more than once.’

(Ongaye 2013:263)

In the example of Konso, we can see that the initial reduplication of the first syllable of the verb (C<sub>1</sub>V<sub>1</sub>-) pluralizes the number of times that the action is done: while in (1a) the agent *pushes* the girl just once, in (1b) he *pushes* the girl several times.

Pluractionality *stricto sensu* is the most common function that pluractional constructions encode cross-linguistically.

If we take into consideration the Cusic (1981)’s phase/event/occasion parameter, this type of plurality can be divided in two sub-types depending on the temporal distribution of the repeated action. These are: *iterativity* and *frequentativity*<sup>9</sup>.

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<sup>9</sup> In this work, the terms iterative and frequentative do not have connection with the aspectual values; i.e., here, they encode only the value that I will define in what

The value that these terms have in this work essentially follows the ones in Bybee, Perkins & Pagliuca (1994:127), we have just merged those definitions with Cusic (1981)'s distinction between event-internal and event-external plurality.

We define *iterativity*<sup>10</sup> as the case in which the situation occurs multiple times, but on a *single and same occasion*, that is, the situation is repeated more than once on a time frame that is relatively restricted.

For example:

(2) Squamish (Salishan, Central Salish)

- a. *Chen kwelesh-t ta sxwi7shn*  
 1SBJ.SG shoot-TR DET deer  
 'I shot a deer.'  
 (Bar-el 2008:34)

- b. *Chen kwel~kwelesh-t ta sxwi7shn*  
 1SBJ.SG RED~shoot-TR DET deer  
 'I shot a deer several times/continuously.'  
 (Bar-el 2008:34)

Between the sentences in (2a) and (2b), there is only a single difference: in (2b) the verb is derived through the reduplication of the first syllable, while in (2a) the verb is 'simple'. This derivation encodes several actions that

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follows without any *categorical reference*. In cross-linguistic perspective, they can be aspectual values, but in other cases they are not part of the aspect system of a specific language. This issue will be discussed at length in chapter 5.

<sup>10</sup> Bybee, Perkins & Pagliuca (1994:127) define *iterativity* as follows: “**Iterative** describes an event that is repeated on a particular occasion. The notion of iteration is particularly relevant to telic predicates – those that have a well-defined end point. Thus iteratives will have lexical restrictions. In reference grammars iteratives are sometimes called Repetitives.”

happen in a relatively small period of time (occasion) and they are performed continuously.

The second type of pluractionality *stricto sensu* is *frequentativity*<sup>11</sup>. We define this type as that case in which the repetition of a specific situation occurs *on multiple and different occasions*, that is, each occurrence of the situation is repeated over a long time frame that involves multiple occasions. In other words, the pauses between the single instances of the action are long enough to be conceived as actions performed on different occasions.

For example:

(3) Khwe (Khoe-Kwadi, Khoe)

*tí à bè-è-xú-t-a-tè!*

1SG OBJ be.too.heavy-II-COMP-FREQ-I-PRS

‘It is often too heavy for me!’

(Kilian-Hatz 2008:146)

In Khwe (Khoe-Kwadi, Khoe) the affix *-t-* gives a frequentative reading to the verb, i.e., an action that is repeated on different occasions. In fact, the sentence in (3) means that something (an object or a situation) is, in the majority of cases (but not always), too heavy for the speaker and, thus, in a more extended time frame than the one in (2).

These two situations reflect, in a certain way, the distinction between

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<sup>11</sup> Bybee, Perkins & Pagliuca (1994:127) define *frequentativity* as follows: “**Frequentative** includes habitual meaning – that a situation is characteristic of a period of time – but additionally specifies that it be frequent during that period of time”. In this case, our definition is slightly different: we do not consider *habituality* as a function included in the notion of *frequentativity*. In this work, the only difference between the two is the customary and ‘typicity’ of a period of time that habituality implies, which are not found in frequentative constructions (cf. the next sections).

‘plurality of events’ and ‘plurality in and of events’ proposed by Cusic (1981). However, as was previously noted, Cusic (1981) recognizes three different *levels* of plurality of a situation: one type of event-internal plurality (plurality *in* events), and two types of event-external plurality (plurality *of* events and plurality *of and in* events). From our data and analysis, it becomes evident that in the languages of the world iteratives and frequentatives are more common than event-internal plurality (plurality *in* events in Cusic (1981)’s terms). For this reason, we have decided to include the latter function in the additional and not in the core pluractional functions. At the same time, this does not mean that in a specific language event-internal plurality cannot be a core function.

#### 2.2.1.2 Distributivity

One of the elements that constitute an event is the location in which the situation can occur. Consequently, also the place can be pluralized: a repeated situation can happen in a single place (like in the case of pluractionality *stricto sensu*) or can be distributed over different places. We propose to call this function with the term *distributivity*. Often, this term has a wider meaning in linguistics, that is, the distribution on different participant or places. In this case, we use *distributivity* with a more specific value, i.e., we consider this function only in its spatial reading.

(4) Barasano (Tucanoan, Eastern Tucanoan)

<i>gahe-rũbũ</i>	<i>bota-ri</i>	<i>kea-kudi-ka-bã</i>	<i>idã</i>
other-day	post-PL	chop-ITER-far <sup>^</sup> PST-3PL	3PL

‘The next day they went from place to place chopping down posts (for the new house).’

(Jones & Jones 1991:101)

In (4), we can see that the morpheme *-kudi-* (glossed as Iterative) encodes the fact that the action is performed more than once and in different places ('...went from place to place chopping...').

Cross-linguistically, distributivity is the less widespread core function. In addition, it appears almost always in conjunction with another core meaning, that is, participant plurality. Probably, this happens because often if the situation occurs over different places, it also involves plural participants. For example, this is the case seen in (4), in which the occasion involves a plurality of situations acted in different places on different objects.

There is a similar situation in #Hoan:

(5) #Hoan (Kxa, Hoa)

a. *ya*    *!ai*        *'a*  
3SG hang.SG    PFV  
'It is hanging.' (a thing hanging on a wall)  
(Collins 1998:56)

b. *tsi*    *!ga*        *'a*  
3PL hang.PL    PFV  
'They are hanging.' (several things hanging on different walls)  
(Collins 1998:56)

In this example, the distribution of the situation over different locations is marked through a particular strategy, that is, stem alternation (or suppletion in certain references). This strategy consists in two different stems that have the same lexical meanings, but while one encodes a singular situation, the second stem encodes a multiple situation. A deeper analysis of this issue will be addressed in Chapter 3.

### 2.2.1.3 Participant plurality

The last element that can be pluralized in a specific situation is the participants. By the term *participant*, we mean any entity or element (be it animate or not) that is involved in the situation encoded by the verb. *Participant plurality* is the type of pluractionality that encodes an occasion in which there is a co-presence of plurality of situations and a plurality of entities.

For example:

#### (6) Huichol (Uto-Aztecan, Southern Uto-Aztecan)

- a. *Nee waakana ne-mec-umi?ii-ri eeki*  
1SG chicken.SG 1SG.SBJ-3PL.OBJ-kill.SG-BEN 2.SG  
'I killed the chicken for you.'

(Comrie 1982:113)

- b. *Nee waakana-ari ne-mec-uqi?ii-ri eeki*  
1SG chicken-PL 1SG.SBJ-3PL.OBJ-kill.PL-BEN 2.SG  
'I killed the chickens for you.'

(Comrie 1982:113)

In (6), we can see that when the verb stem is singular, the participant also is singular and when the verb stem is plural the number of the direct object is also marked with a plural marker. This co-variation follows from an encyclopedic truth: if there is more than one occurrence of a 'killing' event, consequently, there will also be more than one entity killed. This is due to the fact that a particular entity cannot be killed more than once (except for fantasy worlds and novels).

It is important to note that, even though every kind of participants can apparently be pluralized, cross-linguistically there exists a general tendency: often, the entity whose number is pluralized is the so called 'most affected

argument’, i.e. the participant whose state is mostly modified by the occurrence of the situation.

In syntactic terms, more often the most affected participant tends to be the direct object of transitive sentences (cf. (7)) and the only argument of intransitives (cf. (8)).

(7) Central Pomo (Pomoan, Russian River)

- a. *háyu*      *š-čé-w*  
dog          hooking-catch-PFV  
‘He tied up the dog.’  
(Corbett 2000:244)
- b. *háyu*      *š-čé-t-ʔ*  
dog          hooking-catch-PL-PFV  
‘He tied up the dogs.’  
(Corbett 2000:244)

(8) Huichol (Uto-Aztecan, Southern Uto-Aztecan)

- a. *(nee)*      *ne-nua*  
1SG          1SG-arrive.SG  
‘I arrived.’  
(Comrie 1982:99)
- b. *tri*          *yhuuta-t*    *me-niuʔazani*  
children    two-SBJ    3PL-arrive.PL  
‘Two children arrived.’  
(Comrie 1982:99)

At a semantic level, the most affected argument tends to be the patient (cf. (6) and (7)). Even in this case, this is only a tendency and sometimes the agents can also be pluralized (cf. (8b)).

To summarize, participant plurality is a modification of the number value of

the most affected argument. This change is forced by the pluralization of the action. In certain situations, the fact that the action is multiple requires, semantically, the presence of plural participants. This happens because the effect of a plural action can involve plural entities. As Mithun put it, this statement permits us to theorize that the main function of this kind of pluractionality “is not to enumerate entities, but to quantify the effect of [plural] actions, states, and events” (Mithun 1988:214).

In this sense, participant plurality is not a case of nominal number or syntactic agreement between the absolutive argument and the verb, but it is a sort of ‘semantic (i.e., non-syntactical) agreement’ that makes evident the effect that a plurality of actions has on entities (cf. section 3.5).

Durie (1986) and Mithun (1988) have discussed at length on this issue. Their analyses are similar, but they have adopted different terms. Durie (1986) coins the term *semantic selection* and Mithun (1988) describes it as a case of *classificatory verbs*.

*Semantic selection* is a sort of concordance that exists between the value of number of the verb and one of its argument. The plurality (or singularity) of the verb makes necessary a plural (or singular) value of the most affected argument (e.g., the case of ‘killing’ in (6) and of ‘tying’ in (7)).

On the other hand, Mithun (1988) shows that, in some languages, there are different verb stems that share the same lexical meaning, but that differ from each other depending on the type of argument they request.

For example, in Klamath (Isolate, North America) there are four different stems that encode the basic lexical meaning of ‘to give’:

(9) Klamath (Isolate, North America)

*lvoy* ‘to give a round object’

*neoy* ‘to give a flat object’

*ksvoy* ‘to give a live object’

*s?ewan?* ‘to give plural objects’

(Barker 1964:176)

The element that makes these stems different is the type of object that they involve (round, flat, live, etc.).

It is interesting to note that, in this list, there exists one stem that encodes the action of giving plural objects. This means that, in this language, plurality is conceptualized as a property of the object that directly modifies the whole context.

The case of Klamath makes evident that, in such languages, if the action is done more than once and its effect affects a participant, the latter will be necessarily plural.

The terms used by Durie (1986) and Mithun (1988) encode similar situations. They are both valid depending on the language (and the constructions) that we consider. The most important consequence is that we must be aware that participant plurality works on semantic and not on syntactic grounds. A deeper discussion on this issue will be addressed in chapter 3.

#### 2.2.1.4 The case of single actions: the ‘singulactionality’

It is important to mention another type of construction that deals with pluractionality, but that is not a topic of this thesis.

In the literature on nominal number it is widely recognized that the singular is often the default value and the plural is the marked one (Corbett 2000:17). At the same time, there are languages in which it is the singular form of a noun that is overtly marked or is the only one marked (cf. for example the case of *singulative*<sup>12</sup>).

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<sup>12</sup> Corbett (2000:17) defines *singulative* as follows: “‘Singulative’ is a term relating to form; in meaning such forms are singular; ‘singulative’ is normally used when the

We can find the same situation in verbal number: more often, there does not exist an explicit morpheme to mark a single action, but some languages display such marker.

For example, some Cushitic languages<sup>13</sup> show a verbal derivation (gemination of final consonant in monosyllabic verbs: C<sub>1</sub>VC<sub>2</sub>~C<sub>2</sub>) that is widely recognized by several authors (e.g. Amborn, Minke & Sasse 1980; Sasse 1986; Savà 2005; Ongaye Oda 2007, 2009) as a marker that encodes the meaning of ‘doing an action once’.

There exist different terms that refer to this type of derivation, such as *singulative*<sup>14</sup> (Black 1974; Amborn, Minker & Sasse 1980; Sasse 1986), *punctual* (Savà 2005; Ongaye Oda 2007, 2009) and *semelfactive* (Tosco 2010:394).

An example from Konso (Afro-Asiatic, Cushitic) is reported here:

(11) Konso (Afro-Asiatic, Cushitic)

- a. *namasi?*            *?inantasi?*            *?igoffay*  
*nama-si?*            *inanta-si?*            *i=gof~f-ay*  
 person-DEF.F/M    girl-DEF.F/M        3=pinch.SG-PFV[3M]  
 ‘The person pinched the child once.’  
 (adapted from Ongaye Oda 2007:154)
- b. *gimaytasih*        *hellaasini?*        *?igoggofay*  
*gimayta-si?*        *hella-sini?*        *i=gog~gof-ay*  
 old.man-DEF.M/F    children-DEF.P     3=PL-pinch[PL]-PFV[3M]

---

singular form is derived from some other form, typically a collective or general form, and carries a number marker. It is not a significant term and we use it here only because we are quoting from sources which use it.”

<sup>13</sup> This is particularly widespread in Dullay and Oromoid languages. Nevertheless, its absence is noteworthy in Oromo (cf. Ongaye Oda (2009)).

<sup>14</sup> In this case, the term *singulative* refers to a verbal derivation and not to a nominal derivation.

‘The old man pinched the children many times.’

(Ongaye Oda 2007: 155)

In Konso, the basic verb *gɔf* ‘pinch.PL’ has an inherently plural meaning. There are three other forms of this verb: (i) *gɔf~f* ‘pinch~SG’ has a singular meaning, (ii) *gɔ-gɔf~f* ‘PL~pinch~SG’ encodes that the action is repeated a few times (*to pinch few times*), and (iii) *gɔg~gɔf* ‘PL~pinch.PL’ that encodes that the action is repeated several times. The situation of Konso, and Cushitic in general, is particularly complex and interesting and will be analyzed in chapter 4. Here, the important thing is that this language has a strategy to mark the singularity of actions.

We can find a singulative derivation in few other languages of the world. Comanche (Uto-Aztecan, Northern Uto-Aztecan) is another example in which the suffix *-i/-ʔi* means: “X is an isolated action that is over and done with” (Charney 1993:142).

(12) Comanche (Uto-Aztecan, Northern Uto-Aztecan)

a. *awo-e      nii      wiH-tipa-i*  
dish-OBJ    I      INST(general)-break(SG.OBJ)-i  
‘I broke the dish.’

(Charney 1993:142)

b. *u-ma      nii      timi-ʔi*  
it-with    I      buy/sell-ʔi  
‘I sold it.’

(Charney 1993:143)

In Warao (Isolate, South America) there is a derivational morpheme *-a* that Romero-Figeroa (1997:99) describes as a ‘punctual-semelfactive’ marker; i.e., it marks an instantaneous or single action.

(13) Warao (Isolate, South America)

a. *naba-ya ine naru-n-a-e*  
river-all I go-SG-PUNC-PST  
'I went to the river for an instant'  
(Romero-Figeroa 1997:99)

b. *ma-rima rau kaba-n-a-e*  
1SG.POSS-father tree cut-SG-PUNC-PST  
'My mother cut the bush with a single bow'  
(Romero-Figeroa 1997:99)

Yagua (Peba-Yagua) shows a similar system in which the affix *jadapúúryííí* encodes a single action (Payne & Payne 1990:395).

(14) Yagua (Peba-Yagua)

*raryëëchqadapúúryíííra*  
*ray-raqcha-jadapúúryííí-rà*  
1SG-cut-ONE:MVMT-INAN  
'I cut it with a single blow'  
(Payne & Payne 1990:395)

As usually in the domain of verbal number, several terms are used for 'single action' forms. Here, we propose to adopt the term *singulactionality*. This term is the morphological counterpart of the term *pluractionality*. Both terms have the merit to be transparent in meaning and also in their morphological formation. They are formed with the stem of the number value (*plur-* and *singul-*) and the term that refers to the plurality of the verb (*actionality*). Thus, 'plurality of actions' will be *plur-actionality* and 'singularity of actions' will be *singul-actionality*.

## 2.2.2 Additional functions

Cross-linguistically, pluractional constructions show a high degree of multifunctionality. In other words, the forms that are ‘pluractionalized’ tend to encode not only the core functions described in the previous sections, but also several other functions.

In the languages of the world, a set of functions are recurrently marked by pluractional markers, but they can not be considered *core functions*.

The majority of these *additional functions* are related to the notion of plurality or, in a wider sense, to the notion of number. Nevertheless, the way in which they are connected varies.

We have tried to classify these additional functions in different semantic clusters depending on the type of relation they have with the notion of plurality/number.

We found the following three clusters:

1. NON-PROTOTYPICAL PLURALITY: this category gathers functions that encode a sort of plural notion, but not in a typical way. In other words, these values do not indicate a bare distinction between a singular vs. a plural situation. In the languages of the world, the more frequent functions of *non-prototypical plurality* are: habituality, event-internal plurality, continuativity, generic or gnomic imperfectivity;
2. GRADE: in this category, we find functions that encode a modification in the way an action is performed, the *grade* of its development. The more widespread functions are: intensity, completeness, emphasis;
3. RECIPROCITY: often reciprocal meanings can be encoded by pluractional constructions. They encode an action performed reciprocally by at least two participants.

In the next sections, these *semantic clusters* are briefly described.

### 2.2.2.1 Non-prototypical plurality

By the phrase *non-prototypical plurality*, we mean those functions that show a semantic relation with the notion of number and plurality, but the connection is not a direct one. We can call this indirect relationship *non-prototypical*.

These non-prototypical functions do not encode only a simple distinction between single/singular and multiple/plural events, but they encode some other aspects that go beyond this distinction.

The more recurrent non-prototypical functions in the languages of the world are: *habituality*, *event-internal plurality*, *continuativity*, and *generic or gnomic imperfectivity*.

*Habituality*. This term is widespread in linguistic studies and grammars and it indicates an action that is repeated customarily, i.e. that is typical of a period of time. The definition that Bybee, Perkins & Pagliuca (1994:127) adopted from Comrie (1976:27-28) is extremely clear:

“**Habitual** situations are customarily repeated on different occasions. Comrie’s (1976:27-28) definition of habitual is well put:

[Habituals] describe a situation which is characteristic of an extended period of time, so extended in fact that the situation referred to is viewed not as an incidental property of the moment but, precisely, as a characteristic feature of whole period.

Habitual grams may also be restricted to either present or past, or applicable to both. Alternate terms for habitual found in reference grammars are Customary and Usitative and sometimes Iterative.”  
(Bybee, Perkins & Pagliuca 1994:127)

In other words, this value means that an action is repeated; however, its fundamental trait is not the mere repetition, but the typicality of that action in a more or less precise time frame.

Often, we can find this kind of meaning encoded by pluractional constructions and this is the main reason why these two functions (repeated actions and repeated action typical of a period of time) are strictly related from a semantic point of view.

For example:

(15) Sandawe (Isolate, Africa)

- a. *nì-ŋ      hík'-wǎ-ŋ      phàkhé-ŋ | 'èé-ì*  
 CNJ-CL      go:SG-PL2-L      inspect-L      look\_at.3:NR

‘And he will often go, inspect and have a look at it’

(Steeman 2012:242)

- b. *mindà-tà-nà=sì hík'ì-wà*  
 field-in-to=1SG      go:SG-PL2

‘I go to the field.’

(Steeman 2012:188)

In (15), we can see that the morpheme *-wà* (glossed PL2) can have both a frequentative reading in (15a) and a habitual one in (15b). The action in (15a) is performed several times on different occasion, while in (15b) is repeated customarily and habitually in an extended period.

Another example is provided by Macushi (Cariban, Venezuelan) in which the Iterative suffix encodes iterative/frequentative situations (an action merely repeated and mainly in the present, cf. (16a)) and habitual situations in the past (cf. (16b)).

(16) Macushi (Cariban, Venezuelan)

a. *paapa-ya yei ya'tî-pîti*  
father-ERG tree cut-ITER  
'Father cuts the tree (repeatedly)'  
(Abbott 1991:118)

b. *mîikîrî i-n-koneka-'pî yapurî-pîti-'pî*  
3:PRO 3-O:NMLZ-make-PAST praise-ITER-PST  
*to'-ya*  
3:PRO:PL-ERG  
'They used to worship that which he made.'  
(Abbott 1991:118)

*Event-internal plurality.* We use the phrase *event-internal plurality* exactly with the same meaning that was proposed by Cusic (1981), i.e. a plurality in the event. It is often recognized as a case of pluractionality, but we cannot consider this kind of function as a core pluractional value, mainly for two reasons. First, from a cross-linguistic point of view this is not as widespread as the core functions presented above. Second, in our opinion this kind of meaning does not encode a real *multiplicity of situation*. The event is certainly complex, but single. The plurality is internal to the event and not external. Often, in these situations, the action is composed of different phases that are hardly separable from one another; this makes *event-internal plurality* situations more complex than others, but, despite this, the situation remains singular. Following Cusic (1981) terminology, we can say that event-internal plurality encodes a *repetitive* action rather than a *repeated* action.

For example, if we read the English sentence *he whistled* we have in our mind a situation in which the subject whistled several times/continuously (with more than one whistling), rather than a situation in which the agent whistles only once. In fact, even though we do not describe this action as plural, it is

complex and formed of different phases.

An evidence of this is given by the fact that if someone whistles only once we usually have to say it explicitly: *he makes a whistle/he whistles once*.

In some languages, event-internal plurality can be marked using a pluractional marker. A possible explanation lies in the strict relationship between the complexity of event-internal plurality and the notion of plurality (cf. section 1.3.1).

An example of a pluractional marker that encodes also event-internal plurality is provided again by Sandawe (Isolate, Africa).

(17) Sandawe (Isolate, Africa)

- a. *gélé-áá* |*-ímé*  
Gele-SFOC (SV.)come:SG-IT  
'Gele came repeatedly'  
(Steehan 2012:143)
- b. *tsháá=sà xàd-ímé-é*  
pot=3F.SG scrape\_out-IT-3OBJ  
'She scraped out a pot.'  
(Steehan 2012:141)

In these examples, we clearly see a difference between (17a) and (17b): while in the former sentence the Iterative morpheme *-ímé* has a frequentative reading, in the latter it encodes an event that is complex and composed of different *repetitive* phases that make the actual situation complex, but singular. In (17b) there is no verbal plurality in the strictest sense.

This particular function seems to be more often expressed as a characteristic of the lexical item rather than as a morphological device. In fact, in the majority of the situations event-internal plurality can be seen more as a specific trait of certain verbs that encodes a type of *Aktionsart*, that can be called *repetitive* following the terminology of Cusic (1981).

*Continuativity*. Continuative functions are largely widespread in the languages of the world. Often, pluractional constructions can encode this kind of function. Continuativity marks a single action that is prolonged during a period of time. We use this term similarly to *continuative* in Bybee, Perkins & Pagliuca (1994), that is:

“**Continuative** includes progressive meaning - that a dynamic situation is ongoing – and additionally specifies that the agent of the action is deliberately keeping the action going. Continuative is the meaning of ‘keep on doing’ or ‘continue doing’.”

(Bybee, Perkins & Pagliuca 1994:127)

For example, in Rapanui (Austronesian, Malayo-Polynesian) there are sentences like the following ones:

(18) Rapanui (Austronesian, Malayo-Polynesian)

a. *E ha'aki-'aki koe e oho apó*  
 STA announce-DUP 2s STA go tomorrow  
 ‘You go and show them all around tomorrow.’

(Du Feu 1996:162)

b. *I teki-teki i oho ai*  
 PST tiptoe-DUP PST go PHO  
 ‘He went tiptoeing along.’

(Du Feu 1996:162)

In (18a) the reduplication of the verb stem gives a pluractional reading to the situation (in this case a distributive), and in (18b) it encodes a continuative. Another interesting example is given by Chechen (Nakh-Daghestanian, Nakh):

(19) Chechen (Nakh-Daghestanian, Nakh)

- a. *So tykana vedira*  
1SG.ABS store.DAT V.run.WP

‘I ran to the store.’

(Wood 2007:224)

- b. *Hoorā wyyrana so tykana ydu*  
every morning 1SG.ABS store.DAT run.PLAC.PRS

‘Every morning I run to the store repeatedly (more than once per day)’

(Wood 2007:225)

- c. *So cwana sahwťiahw idira*  
1SG.ABS one.OBL hour.LOC run.PLAC.WP

‘I ran (went running) for one hour.’

(Wood 2007:224)

In these examples, we can see that different forms of the same verb ‘to run’ can have different functions. In particular, the pluractional forms in (19b) and (19c) have respectively a frequentative and a continuative reading.

*Generic or gnomic imperfectivity.* This meaning is not very widespread in the languages of the world, but it is particularly important for the explanation of a possible conceptual space (cf. Section 2.3).

Generic and gnomic imperfectivity marks a situation that is a property of an entity or that encodes a gnomic truth.

For example, in Meithei (Sino-Tibetan, Naga) the suffix *-kən* marks pluractional, habitual and generic meanings:

(20) Meithei (Sino-Tibetan, Naga)

a. *nókkənbə*

*nók-kən-pə*

laugh-REPEAT-NOM

‘someone who laughs all the time whether or not there is a joke, as a habit.’

(Chelliah 1997:216)

b. *əydi*      *yámnə*      *pígənbə*      *míni*

*əy-ti*      *yám-nə*      *pí-kən-pə*      *mí-ni*

I-DLMT      lot-ADV      give-REPEAT-NOM      man-COP

I      a lot      always giving      man am

‘I am a very generous man.’ (lit. I am a man who always gives a lot)

(Chelliah 1997:216)

Unfortunately, the translations of these examples are not completely satisfactory and do not show the functions of this suffix in a clear way. Nonetheless, the author of the grammar recognizes herself that the morpheme *-kən* can have different functions:

“The suffix *-kən* indicates that an action is performed repeatedly where such repetition is not called for (see (6b) [(20a)]). As seen in (6c) [(20b)], the suffix may also indicate habitual action.”

(Chelliah 1997:216)

In this case, we cannot say that the function of the pluractional marker is one of the core or is the habitual function because the sentence encodes a property or a peculiarity of the subject that probably s/he will have for her/his entire life, i.e. a characteristic that is always true.

#### 2.2.2.2 Grade

By *grade*, we intend those functions that encode a modification of the degree of the action. In other words, a single situation whose grade is modified with respect to the *usual* development of the same situation.

Cross-linguistically, the more widespread functions of this semantic cluster are: (i) intensity, (ii) completeness, and (iii) emphasis.

*Intensity*. This is one of the most common additional functions that pluractional markers can encode. Intensity indicates an action done with more effort or whose result is augmented with respect to the *normal* happening of the same action.

For example, in Yimas (Lower Sepik-Ramu, Lower Sepik) the reduplication of the verb root marks pluractional functions (cf. (21a)), but can also mark intensity of the action. In (21b), the reduplication of the verb *tay-* ‘see’ creates a root *tacay-* with the intensive meaning ‘to stare’.

(21) Yimas (Lower Sepik-Ramu, Lower Sepik)

a. *ya-n-arkark-wampaki-pra-k*

V.PL.OBJ-3SG.A-break(RED: *ark-*)-throw-TOWARD-IRR

‘He repeatedly broke them and threw them as he came.’

(Foley 1991:319)

b. *ya-mpu-nanan-tacay-ckam-tuk-mpun*

V.PL.ONJ-3PL.A-DUR-see(RED: *tay-*)-show-RM.PAST-3PL.D

‘They were showing those to them very well (and they stared at those).’

(Foley 1991:319)

Also in Kokama-Kokamilla (Tupian, Tupi-Guarani), the full reduplication of the verb stem, that usually marks pluractionality (cf. (22a)), can give a real intensive meaning (cf. (22b)):

(22) Kokama-Kokamilla (Tupian, Tupi-Guarani)

- a. *ra*            *yupuni*      *yauki urkuru*      *umi~umi-ka*      *ikian*  
3SG.M      start            make basket      see~see-REI      this  
*yapu*      *uka*      *chikuara*  
paucar      house      base

‘She starts to make the basket looking and looking at the base of the paucar’s house’<sup>15</sup>

(Vallejos Yopán 2010:371)

- b. *tapia=tua*                      *alcanza-shka=ay*                      *iwira-ka*  
savage=AUG                      reach-VBZ=3F.OBJ                      tree=LOC  
*ya=pariatsu~pariatsu*              *ariwa*      *iwira*      *ya=warika*  
3SG.F=suffer~suffer              on.top      tree      3SG.F=go.up  
*ariwa*  
on.top

‘The savage reaches him on the tree while he is in intense suffering while climbing the tree’

(Vallejos Yopán 2010:371)

*Completeness.* This function encodes a situation that is performed completely, in its entirety.

For example, in Turkana (Nilotic, Eastern Nilotic) the reduplication of the verb stem can encode pluractional (cf. (23a-b)) and complete (cf. (23c-d)) situations:

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<sup>15</sup> Vallejos Yopán (2010:371) notes that “the verb *umi* ‘see’ is repeated to indicate that in the process of basket-making the manufacturer observes the model over and over”.

(23) Turkana (Nilotic, Eastern Nilotic)

- a. *-poc* ‘pinch’ → *a-poc-o-poc* ‘pinch repeatedly’
- b. *-ilug* ‘twist’ → *a-k-ilug-u-lug* ‘twist repeatedly’
- c. *-ɲrl* ‘crumble’ → *a-ɲrl-r-ɲrl* ‘crumble completely’
- d. *-ikic* ‘bone out’ → *a-k-ikic-i-kic* ‘bone out completely’

(Dimmendaal 1983:106)

Another example is provided by Nivkh (Isolate, Asia) in which pluractional suffixes (participant plurality in (24)) can encode also completeness and entirety (in (25b)):

(24) Nivkh (Isolate, Asia)

*Imŋ sək mər-ɣət-t-ɣu.*

They all ascend-DISTR/INTS/COMPL-IND-PL

‘They all (= each of them) went up.’

(Nedjalkov & Otaina 2013:136)

(25) Nivkh (Isolate, Asia)

a. *Hə+vo*                    *u-d*

that+village            burn-IND

‘That village burnt / burnt down / burns.’

(Nedjalkov & Otaina 2013:136)

b. *Hə+vo*                    *u-ɣət-t*

that+village            burn-DISTR/INTS/COMPL-IND

‘That village burnt down entirely.’

(Nedjalkov & Otaina 2013:136)

*Emphasis*. Finally, the last function connected with the notion of grade that pluractional marker can show is the so-called *emphasis*. With this term, we intend an action done with particular emphasis or affectedness. For example, in Batak Karo (Austronesian, Malayo-Polynesian), this kind of function can be encoded by the reduplication of a causative verb (cf. (26b)):

(26) Batak Karo (Austronesian, Malayo-Polynesian)

a. *Sapu-sapuna kucing é.*  
 (PASS.)stroke-stroke.she cat that  
 ‘She stroked the cat again and again.’

(Woollams 1996:98)

b. *Peturah-turah sitik ukurndu*  
 CAUS.grow-grow SOF mind.your  
 ‘Grow up a bit! (i.e. Act like an adult!)’

(Woollams 1996:98)

### 2.2.2.3 Reciprocity

In the languages of the world, the morphemes that mark reciprocal meanings are often connected semantically with pluractional constructions. These two functions are strictly related and the motivation of this relatedness is quite evident: reciprocity encodes an action that is done by at least two different participants reciprocally, i.e. one of the participants performs the action on the second and, vice versa, the second one simultaneously performs the same action on the first participant.

Consequently, in a reciprocal situation there are at least two different participants and two different instances of the same action. For this reason, reciprocity and pluractionality (in particular iteratives) are strictly related.

For example, in Jóola Karon (Atlantic, Bak) the same marker *-ool* can encode

reciprocal and pluractional functions:

(27) Jóola Karon (Atlantic, Bak)

- a. *Lopeel*                    *a-muus-ool-a*  
Robert                    3SG-pass-PLAC-ACC  
'Robert went and came back.'  
(adapted from Sambou 2014:150)
- b. *Sana ni*    *Faatu*    *ka-cuk-ool-a*  
Sana and Fatou    3PL-see-RECP-ACC  
'Sana and Fatou saw each other.'  
(Sambou 2014:149)

Another example is provided by Khmer (Austro-Asiatic, Khmeric) in which the prefix *pra-* encodes iterative (cf. (28a)) and reciprocal (cf. (28b)), and also collective meanings:

(28) Khmer (Austro-Asiatic, Khmeric)

- a. *dual*            → (*p-dual*            →) *pra-dual*  
'fall down'       ('knock down')       'knock down repeatedly'  
(Haiman 2011:71)
- b. *sra:j* 'connect' → *pra-sra:j* 'be united, connected; stay on or with'  
*pra:eu*    *ka:-* *ni'jiaj*    *pra-sra:j* *tev*    *venj* *tev*    *mau:k*  
use        NOM talk        united    go    back go    come  
*raviang*    *caun*        *teang*        *la:j*  
among    person    all        all  
'(We) all use conversation to make reciprocal connections with each other.'  
(Haiman 2011:71)

### 2.2.3 Rare functions

Core and additional functions are not the only functions that pluractional markers can encode: cross-linguistically, they are the most recurrent, but there are some other functions that are rare and not so widespread.

These rare functions fall outside the scope of this thesis. Nevertheless, some of them deserve to be mentioned.

*Indefiniteness.* In Batak Karo (Austronesian, Malayo-Polynesian), the reduplication<sup>16</sup> of certain intransitive verbs gives

“a sense of indefiniteness, ‘diffuseness’ (Rosen 1977:4), or lack of specific orientation or goal; this meaning tends to overlap with notions of repetition and plurality”

(Woollams 1996:101)

For example:

(29) Batak Karo (Austronesian, Malayo-Polynesian)

<i>Səh</i>	<i>i</i>	<i>Lau</i>	<i>Kawar,</i>	<i>déba</i>	<i>ia</i>	<i>ridi-ridi,</i>
reach	at	Lau	Kawar	some	they	bathe-bathe
<i>déba</i>	<i>ngerakit</i>	<i>...é</i>	<i>maka</i>	<i>kundul-kundul</i>	<i>ia</i>	
some	act.raft	and	then	sit-sit	they	
<i>kerina</i>	<i>i</i>	<i>tepi</i>	<i>dano</i>	<i>é.</i>		
all	at	side	lake	that		

‘Arriving at Lau Kawar, some went swimming, others played on rafts and then they all sat around the edge of the lake.’

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<sup>16</sup> Often, in Batak Karo, this strategy of marking has a pluractional function (cf. example (26a)).



(31) Cilubà (Atlantic-Congo, Volta-Congo)

<i>Mu-ntu</i>	<i>ù-vwa</i>	<i>mu-ship-angan-a</i> <sup>17</sup> ,	<i>bà-vwa</i>
CL1-person	SC1-PST	CL1-kill-PR-FV	SC2-PST
<i>bà-mu-ship-a</i>	<i>pà-èndè,</i>	<i>nànasha</i>	<i>yéye</i>
SC2-OC1-kill-FV	PP16-POSS1	even.if	PRON1

*mu-àna-ènù.*

CL1-brother-POSS2PL

‘The person that has killed (someone), we should kill him as well, even if he is your brother.’

(Dom, Segerer & Bostoen 2015:355)

(32) Cilubà (Atlantic-Congo, Volta-Congo)

Ba-ntu	ba-ònsò	bà-dì	ànu
CL2-human	PP2-every	SC2-PRS	just

*bà-amb-angan-a.*

SC2-say-PR-FV

‘Everybody just teases each other.’

(Dom, Segerer & Bostoen 2015:355)

The additional functions that this marker can express are sociativity/collectiveness and iterativity (cf. Dom, Segerer & Bostoen 2015:355).

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<sup>17</sup> “This is a nominalized form of the verb with the verbal stem taking a nominal prefix. In combination with an auxiliary it expresses perfect aspect.” (Dom, Segerer & Bostoen 2015:355, fn 2).

(33) Cilubà (Atlantic-Congo, Volta-Congo)

M-bowà                      nè        N-gandù                      bà-vwa  
CL1n-buffalo                      and        CL1n-crocodile                      CL2-PST  
ba-eeò-èsh-àngàn-e  
CL2-throw-CAUS-PR-FV

‘The buffalo and the crocodile were having a discussion.’

(Dom, Segerer & Bostoen 2015:370)

(34) Cilubà (Atlantic-Congo, Volta-Congo)

*Mu-lùme        ù-di                      ù-pòòl-angan-a                      àmu*  
CL1-man        SC1-PRS                      SC1-pluck-PR-FV                      just  
*ku-pòòl-angan-a.*  
CL15-pluck-PR-FV

‘The man is just constantly plucking.’

(Dom, Segerer & Bostoen 2015:374)

This multifunctionality can be explained through the functional similarity among these functions. Reciprocity expresses a situation in which two participant act reciprocally (‘Bob and Peter are hitting each other’) and the situation is symmetrical (both participants, the agent and the patient) (cf. Bostoen, Dom & Segerer 2015). At a linguistic level, this means that the object of the transitive verb can be promoted to the subject position (‘Bob hits Peter’ vs. ‘Bob and Peter hit each other’) resulting in a typical antipassive situation. The functional connection between reciprocity and participant plurality (and then plurality of situations, i.e. pluractionals *stricto sensu*) was partly noted in section 2.2.2.3 and it will be discussed in next sections.

This situation applied to several other Bantu languages (morpheme *-an*, cf. Bostoen, Dom & Segerer 2015).

## 2.3 The conceptual space of pluractional constructions

From the previous sections, a clear fact emerges: cross-linguistically, pluractionality shows a high degree of multifunctionality.

Describing such a large multifunctional domain can appear a hard task and, indeed, in a certain way it is quite complex to hypothesize an explanation that covers (almost) all the functions that pluractional constructions can encode in the languages of the world.

For this reason, we believe that displaying all these functions in a geometrical space can help to improve our understanding of the semantic domain of pluractional constructions.

Before presenting the conceptual space, it is better to briefly illustrate this approach and its usage in typological linguistics.

### 2.3.1 The Semantic Map model

In the last three decades, a new way of representing “both language universals and language specific grammatical knowledge (see Anderson 1974; 1982; 1986; 1987; Croft, Shyldkrot and Kemmer 1987; Croft 1991a; 2001; Kemmer 1993; Haspelmath 1997a; 1997b; to appear [i.e. 2003]; Stassen 1997; Kortmann 1997; van der Auwera and Plungian 1998)” (Croft 2003:133) has been proposed. This method is known as the *semantic map model* or *method*. The *semantic map model* consists in representing the multifunctionality of a specific grammatical category on a geometrical space in order to catch the existing relationships between different functions.

An extremely clear and famous definition of this approach is the following one:

“A semantic map is a geometrical representation of functions in ‘conceptual/semantic space’ that are linked by connecting lines and thus constitute a network. The configuration of functions shown by the map is claimed to be universal.”

(Haspelmath 2003:213)

The creation of the maps is strictly connected with cross-linguistic comparison. The universality of the network of functions can be dealt with only through a large scale typological analysis, i.e. comparing a sufficient (and balanced) number of languages.

An important distinction firstly proposed by Croft (2001) is the one between *conceptual space* and *semantic map*. Following Croft (2001:93)’s definition: “Conceptual space is a structured representation of functional structures and their relationships to each other”, we can say that a *conceptual space* is a network of functions of a specific domain and that, in addition, it is universal. Two functions are connected only whether there exists at least one language that encodes them through the same marker, and at least one that encodes them through two different markers.

On the other hand, a *semantic map* is the language-specific expression of a conceptual space: it shows how a language encodes the functions disposed on the space.

This model was criticized by some scholars (cf. Cristofaro 2010 among others). Some linguists theorized that a conceptual space also shows the mental and cognitive organization of conceptual situations, that is, how concepts are organized in our mind (e.g. Anderson 1982). Although this theory is certainly attractive, probably there is not enough evidence to scientifically demonstrate this statement (cf. Cristofaro 2010).

Even though this debate is extremely interesting, it is not the aim of the present chapter, and in a wider sense neither of this thesis, to solve (or discuss)

this issue<sup>18</sup>.

Nevertheless, we believe that the *conceptual space/semantic map* model allows us to better understand the complex multifunctionality of pluractional constructions. Certainly, this approach can help us comprehend the existing relationships between the several functions and, in addition, also why this phenomenon can cover such a large functional domain.

In the sections that follow, we will present the *conceptual space* of pluractional constructions and we will propose a tentative explanation. In Chapter 4, we will present some case studies and the relative semantic maps.

### 2.3.2 Pluractional conceptual space

The conceptual space of pluractional constructions is represented in Figure 1.

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<sup>18</sup> For a wider discussion on the problems (and the possible solutions) of the *conceptual space/semantic map* model cf. the monographic issue of *Linguistic Discovery* 8:1 (2010).

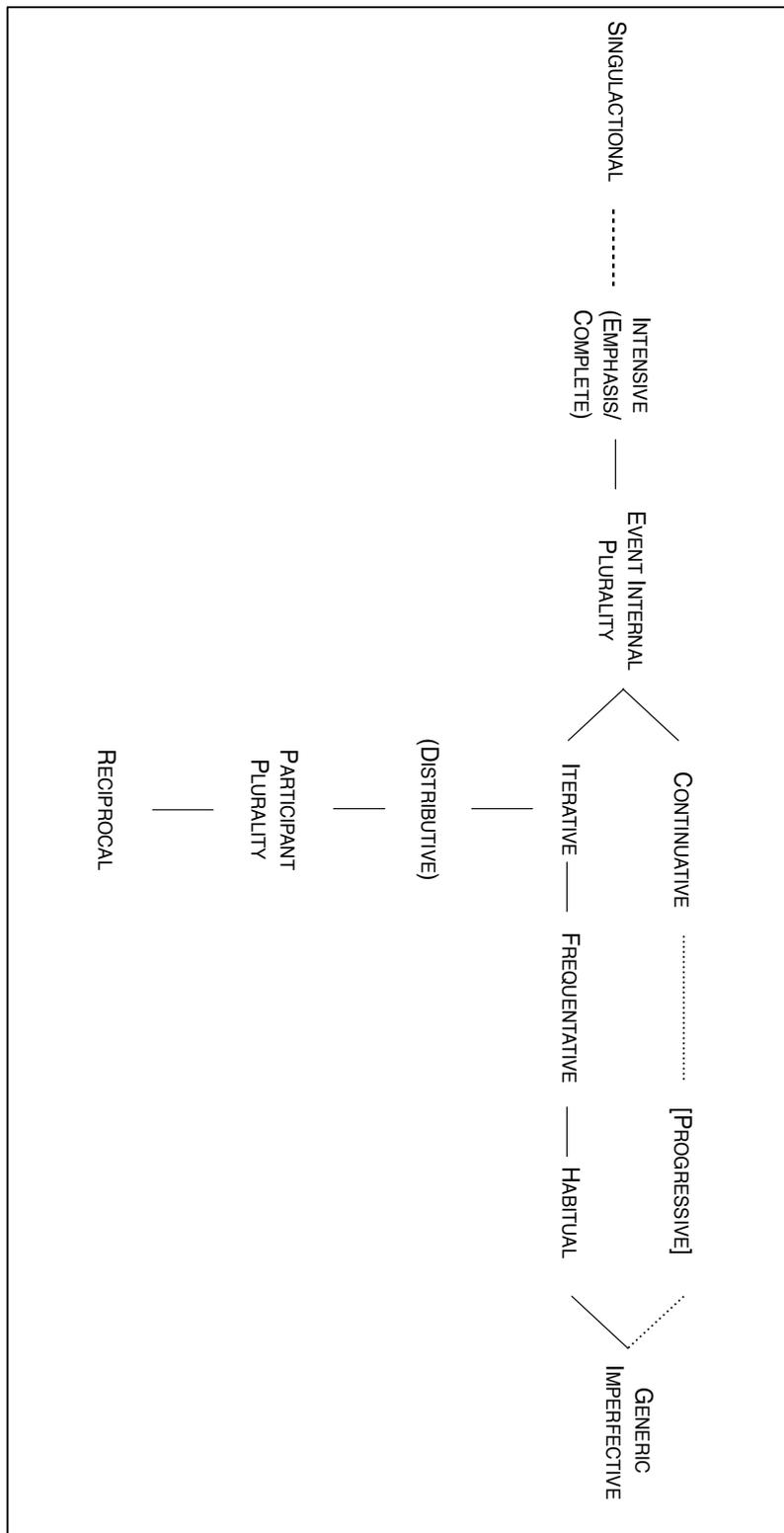


Figure 2.1 – The conceptual space of pluractional constructions.

This conceptual space is the result of the cross-linguistic comparison of the data that we have collected from the languages of our sample.

Some of the ‘notations’ that we have adopted in the space must be explained. We have used three different types of line: full line, dotted line, and dashed line. The full lines connect functions that in our data show a direct relationship, that is, there exists at least one language that marks them through the same marker, and at least another one through different markers. Conversely, the dotted lines show a relationship between functions that we have not directly found in the data, but that is plausible. Specifically, the only part of the space in which this kind of lines appears is the *progressive zone*. As we will explain below, this relationship is suggested by Bybee, Perkins & Pagliuca (1994:169-172). Thus, this zone is not a direct result of our investigation. Finally, there is only one dashed line. This type of line connects functions that show a correlation, even though this is not direct. In other words, there exists a connection between singulactionality and the other functions (intensity, completeness, emphasis), but since the main topic of this thesis is the investigation in the domain of plurality of situations (pluractionality) and not of singularity of situations, we did not have the opportunity to analyze this topic in a sufficient way, but only tangentially and peripherally. Thus, we are not sure whether these functions have a direct or a mediated connection. Consequently, in order to show that there exists a (direct or indirect) relationship we have adopted a dashed line.

Another notation that must be explained and that is related with one of the lines concerns the brackets. While the lines show a different type of relationship between the functions, the brackets have two different meanings: in the case of progressive, square brackets indicate that this is not a function that we have found in the data; in the case of distributivity and completeness/emphasis, round brackets indicate that even though they showed up during the cross-linguistic analysis and exhibit the connection expressed in the space, these functions are marginal and less widespread in

the languages of the world.

### 2.3.3 A tentative explanation of pluractional conceptual space

In this section, we present and (try to) explain the parts of the pluractional conceptual space.

First, we can recognize a basic distinction between two main parts: one represents *singular functions* and the other represents *plural functions* (prototypical or not).

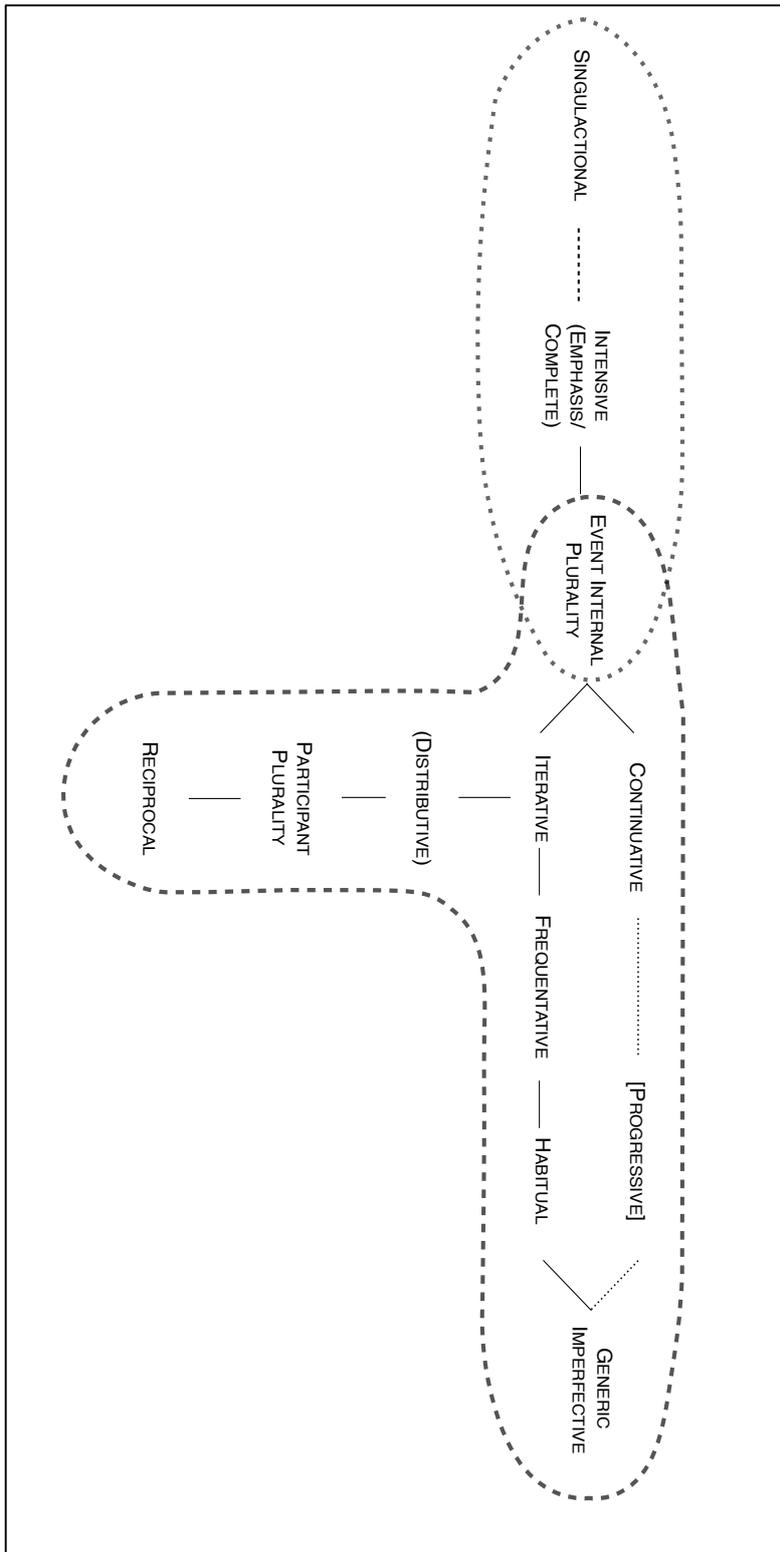


Figure 2.2 – Singular and plural functions.

### 2.3.3.1 Singular functions

The functions that are related with the notion of singularity are all situated in the left part of the space. They are: singulactionality, intensity (emphasis and completeness), and event internal plurality. Each of them has its own relationship with singularity.

While singulactionality is, at least theoretically, the most prototypical singular function, the others show a (slight) connection with the notion of plurality.

The *grade* zone (that can be conceived as part of the singular part) shows a modification in the development of the situation. In the majority of cases, this modification involves its intensity or degree (cf. completeness) and can be seen as an ‘augmentation’ of the grade of the situation itself. This is the first (and small) correlation with plurality that we find in the space.

The position of event-internal plurality is fundamental. It is the borderline function between singularity and plurality. Here, the relationship with plurality is stronger, and it is shown by the nature of this function: event-internal plurality involves situations that are externally singular, but that are inherently plural. This makes event-internal plurality the perfect link between single and multiple situations.

The *singular* area is composed of three different parts. From the left to the right, the connection with plurality increases: from singular (singulactionality) to inherently plural situations, through *augmented* functions (intensity, completeness, and emphasis).

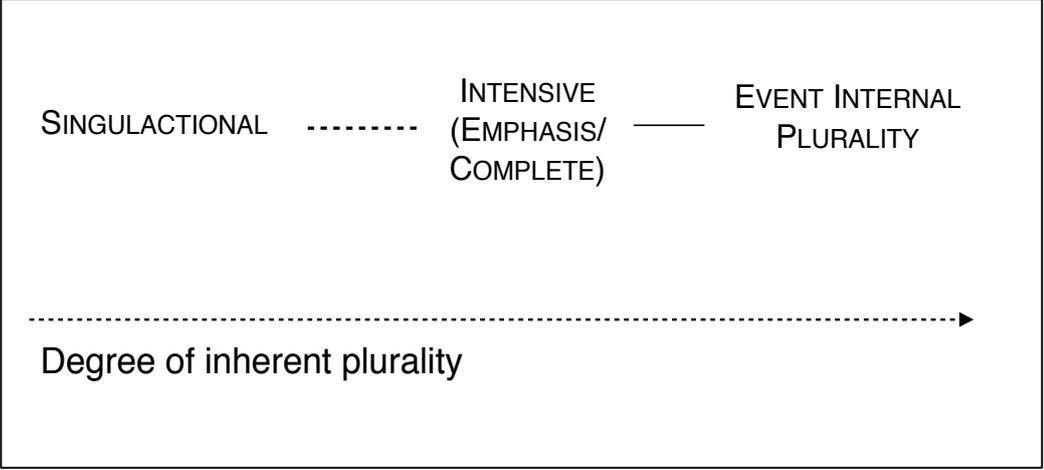


Figure 2.3 – Singular area

2.3.3.2 Plural functions

The part of the space in which are placed the functions that can be considered plural is represented in Figure 3. Obviously, this is the most prominent part of the space.

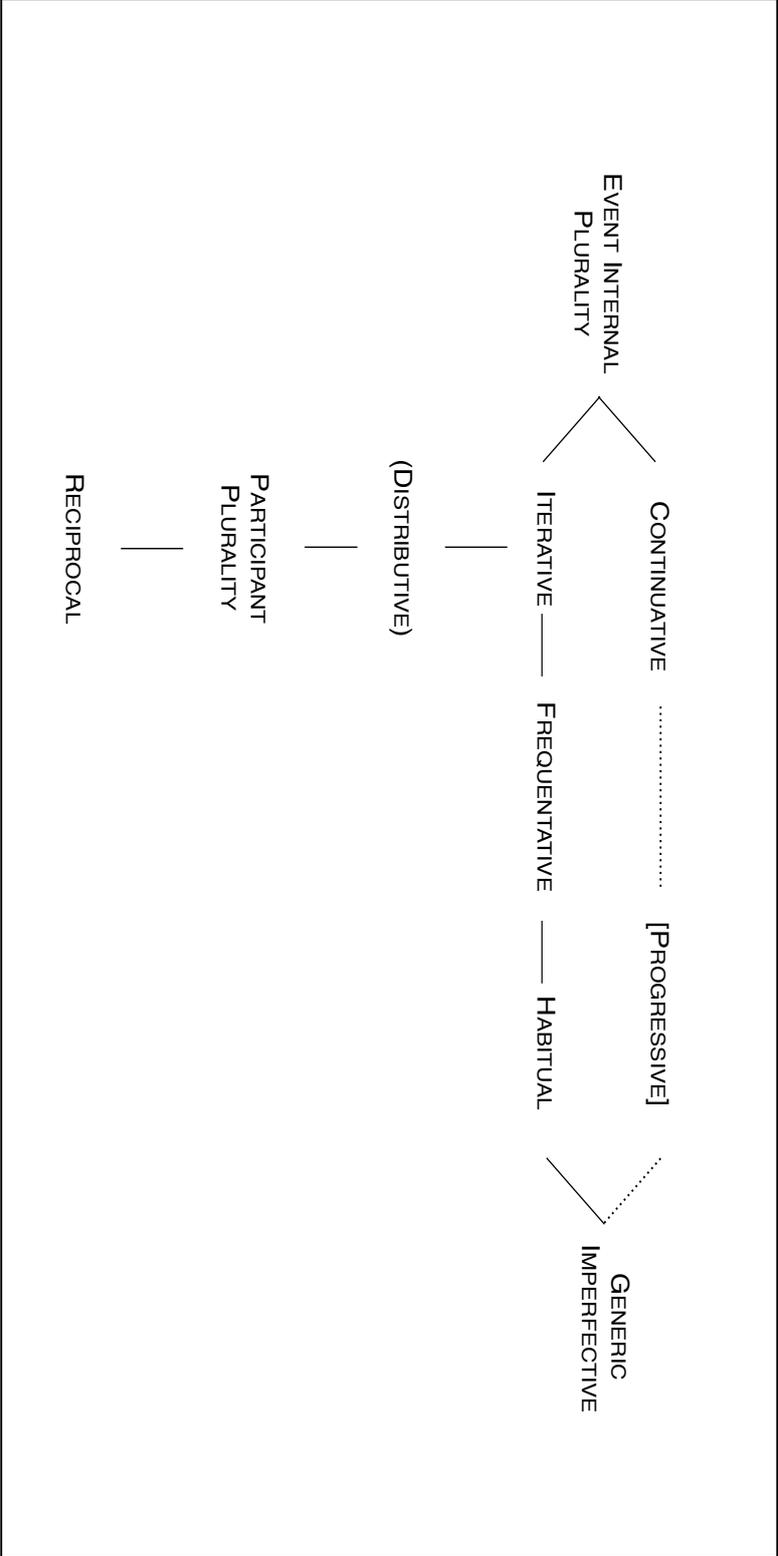


Figure 2.4 – Plural functions of the pluractional conceptual space.

All the functions of this area have a connection with plurality. This correlation can be more or less direct.

Following the distinction in different *semantic clusters* proposed in the previous sections, we can recognize different types of relationships between these functions and the notion of plurality.

These clusters include functions that show a direct relationship with plural meanings (*pluractional core functions*) and functions that have an indirect or a wider relationship with plurality (two clusters: *non prototypical-plurality* and *reciprocity*).

As shown in Figure 2.5, the first cluster of core functions is composed of iterativity, frequentativity, distributivity, and participant plurality. The second and third clusters of non-core functions are respectively formed of event-internal plurality, continuativity (and progressivity), habituality and generic (or gnomic) imperfectivity, and reciprocity.

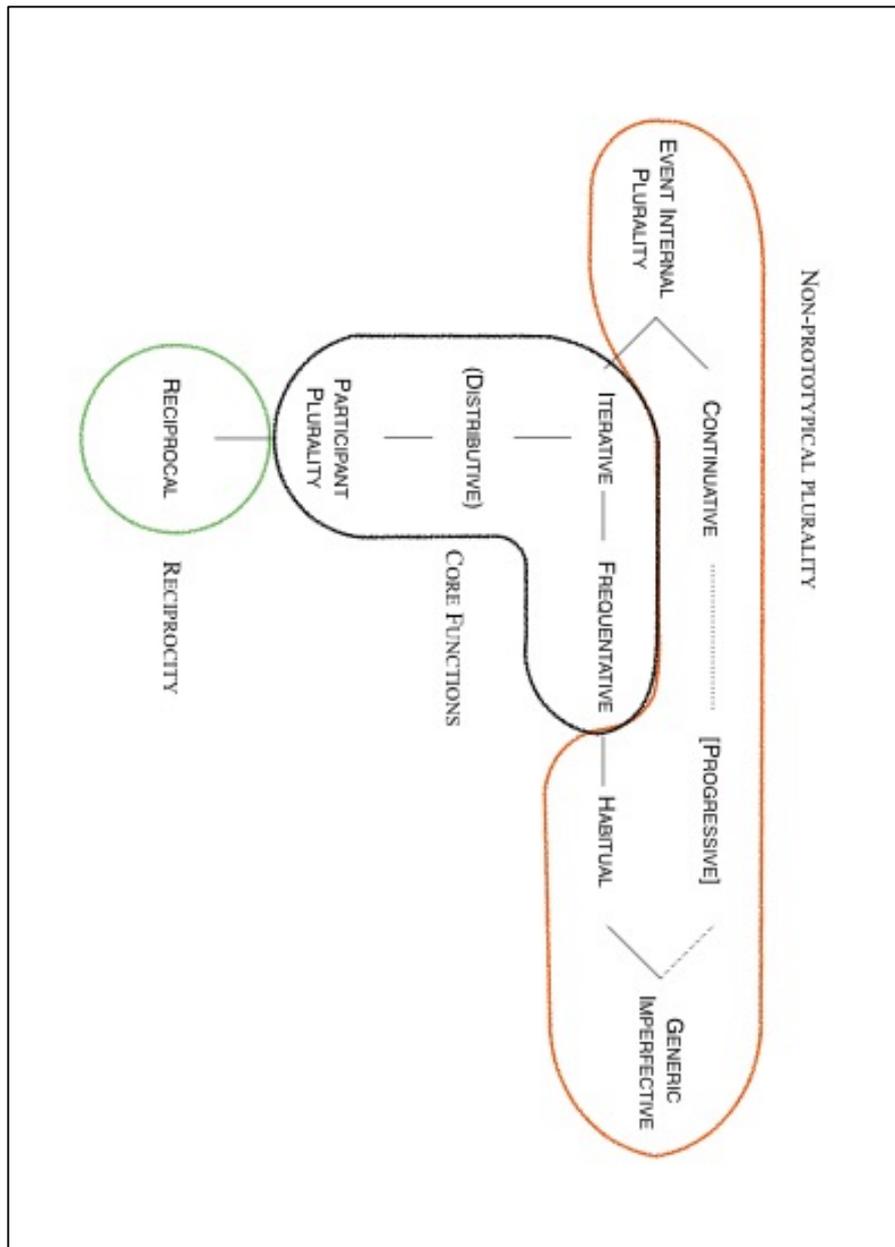


Figure 2.5 – Plural area and relative semantic clusters.

### 2.3.3.2.1 Pluractional core functions

The most important part of the conceptual space connected with plurality is the one represented by pluractional core functions.

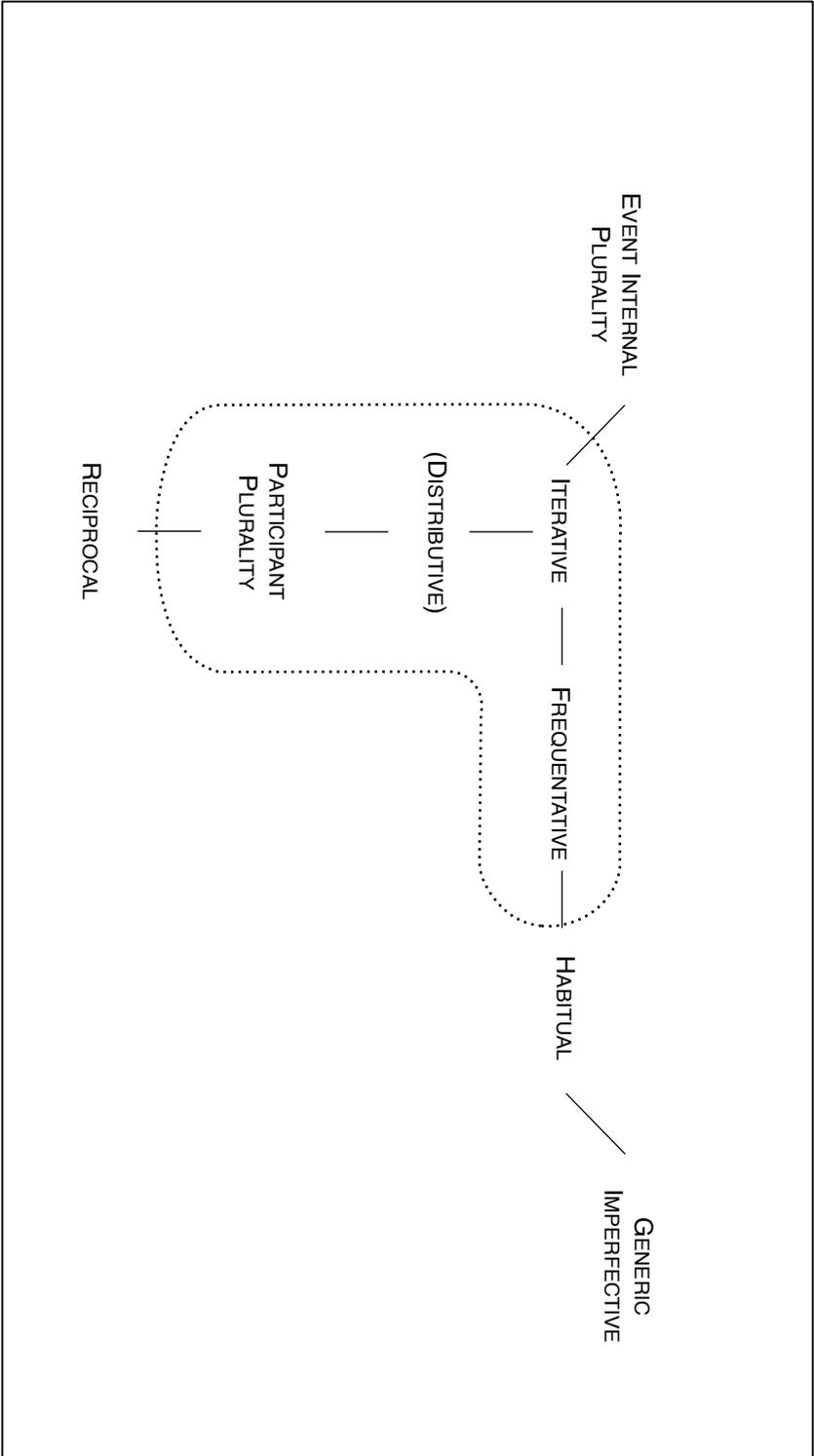


Figure 2.6 – Pluractional core and strictly related functions.

Iterativity is connected to the left with event-internal plurality because it brings the plurality from the inside to the outside of the situation. This function encodes a plurality in which we can easily recognize each instance of the repeated situation. In other words, the single repetitions are separated one to each other, i.e., they are discrete. This creates a real multiplicity that is external to the situation.

On the other side of iterativity, there is frequentativity. Frequentativity extends the multiplicity of the situations from one occasion to different occasions. In other words, the repetition takes place with a longer pause between each instance, and the situation is not repeated on the same occasion. The last part of the space is represented by the notion of distributiveness. We have decided to posit this part not with a horizontal orientation like the others, but with a vertical one because in this part there is an additional parameter that is different from the bare single/multiple event parameter used in the rest of the space. This new parameter can be called *distributiveness*. This term must be considered distinct from *distributivity*. It expresses a distribution over different places (*distributivity*) and also over different entities (*participant plurality*). In other words, the term distributiveness covers both the core functions placed in this area of the map, namely, distributivity and participant plurality. The change of orientation in the conceptual space underlines the presence of this additional parameter.

The difference that exists between iterative and distributive functions is only the presence of a plurality of locations in which the repeated situation takes place.

Distributive functions are particularly important. In fact, as mentioned in Section 2.2.1.2, they are not very widespread in the languages of the world. Nevertheless, this function is the perfect connecting point between iterativity and participant plurality.

Indeed, as was noted previously, this function is often accompanied by a plurality of participants: different entities affected by a plural situation in

different places. This connection has a semantic reason. The perfect example is given by the verb ‘to plant’: if someone does the action of planting something several times, it is extremely probable that s/he will plant also several entities and, consequently, this action will take place in different locations (it is almost impossible to plant several things in the same place). This example shows the strict relationship between *iterative-distributive-participant plurality* functions.

#### 2.3.3.2.2 *Non-prototypical plurality and reciprocity*

As was stated previously, *non-prototypical plurality* and *reciprocity* include those functions that encode a plural semantics, but also have an additional value that goes beyond the bare distinction between singular and plural situations.

The functions that are part of this cluster are shown in Figure 2.7.

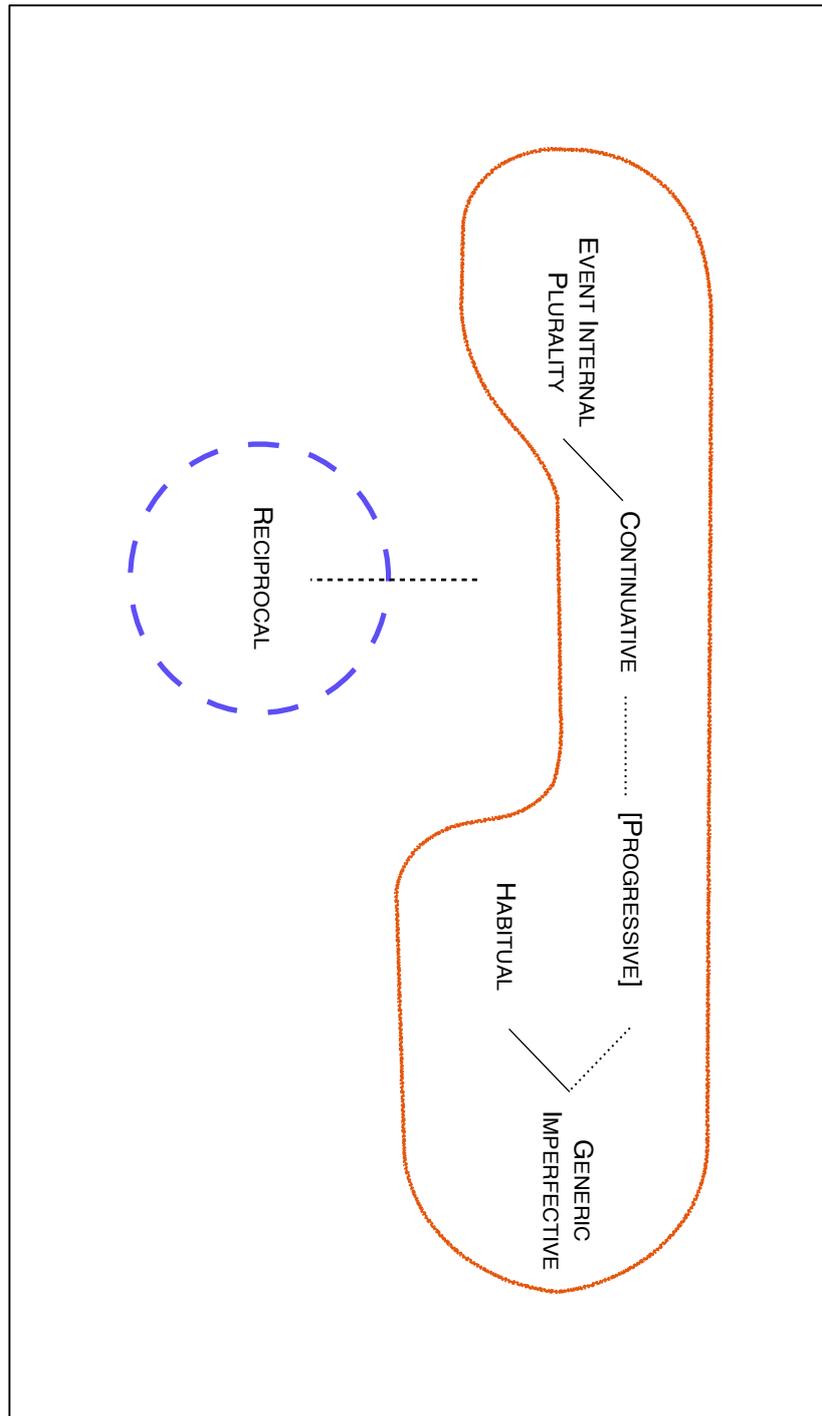


Figure 2.7 – Non-prototypical plurality and reciprocity.

It is possible to recognize at least three different sub-areas: the first is composed of the values that encode single situations, but that are inherently

plural or that extend the action during time – i.e. event-internal plurality, continuativity (and progressivity); the second is the imperfective area – i.e. habituality and generic(/gnomic) imperfectivity; and the third is represented by reciprocity.

*Single and extended situations.* The functions that composed this sub-area are: event-internal plurality and continuativity (and progressivity).

These functions encode a single situation and also has a connection with plurality: the situation is either inherently plural or is extended over time.

As was noted previously, event-internal plurality encodes an action that is externally singular (done only once), but that is internally plural, in the sense that it is formed of different phases. Often, the actions encoded by this value are not punctual/instantaneous actions, but they tend to be *repetitive actions* (cf. Cusic 1981:78). The classic example is *the mouse nibbled and nibbled the cheese* (Cusic 1981:61). In this case the mouse eats a single piece of cheese with several different bites. These phases make the action complex (internally plural), but the whole situation remains singular.

Another reading that is possible for this kind of situations is the continuativity. In this case, the action of nibbling can be perceived as a single action of biting the cheese in a long period of time, i.e. a prolongation during time. These two possible readings make evident that there is a quite strong correlation between continuativity and event-internal plurality.

The choice of including progressivity in the conceptual space is mainly due to some considerations contained in Bybee, Perkins & Pagliuca (1994). In fact, progressive meanings are not usually encoded by pluractional markers (at least in our data). Nevertheless, Bybee, Perkins & Pagliuca (1994) define progressive as follows:

“**Progressive** views an action as ongoing at reference time [...], it applies typically to dynamic predicates and not to stative ones.

Thus the progressive is typically used for actions that require a constant input of energy to be sustained, [...].”

(Bybee, Perkins & Pagliuca 1994:126)

At the same time, they define continuativity as follows:

“**Continuative** includes progressive meanings – that a dynamic situation is ongoing – and additionally specifies that the agent of the action is deliberately keeping the action going.”

(Bybee, Perkins & Pagliuca 1994:127)

It is evident that continuative and progressive are strictly related functions. In addition, Bybee, Perkins & Pagliuca (1994:169-172) state that there is a (diachronic) correlation between these grams and iterativity on the one side (on our map this relation is not direct, but it is semantically mediated by event-internal plurality) and imperfectivity on the other side. The connection follows a path of grammaticalization: ITERATIVE (> EVENT INTERNAL PLURALITY) > CONTINUATIVE > PROGRESSIVE > IMPERFECTIVITY (adapted from Bybee, Perkins & Pagliuca 1994:170, 172). This important correlation must be taken into account because it broadens our understanding of the whole semantic domain of pluractionality. For these reasons, we have decided to include progressive in the conceptual space. This gives a more comprehensive account of the functions and semantic areas that are related to pluractionality (even though not directly).

*General functions.* Other non-prototypical functions are habituality and generic (/gnomic) imperfectivity.

Habituality is strictly related to frequentativity: both of them encode a repetition of a situation over a long period of time, i.e. on different occasions. The only difference consists in the fact that habitual situations are typical of

a(n extended) period of time, while the repetition encoded by frequentativity is more casual. In other words, habituality marks situation repeated and generalized in a specific time frame.

This time frame can become extremely extended and, thus, the repetition of a certain situation can be also prolonged to all the possible occasions. In this case, we will talk about generic or gnomic imperfectivity (cf. Shluinsky 2009 and Bertinetto & Lenci 2010).

We can define ‘gnomic imperfectivity’ as a permanent repetition of an action or a situation that leads to generic imperfectivity. For example (Bertinetto & Lenci 2010:14):

(35) *Dogs have four legs*

The sentence in (35) is always true, it encodes a general truth that happens every time (excepted in some unusual situations, such as a malformation or an amputation).

In other words, we can consider ‘gnomic imperfectivity’ as an extreme case of habituality.

Bybee, Perkins & Pagliuca (1994) note that:

“**Imperfective** is treated in these works [i.e. Comrie 1976, 1985; Dahl 1985] as the contrast partner of perfective, and thus views the situation not as a bounded whole, but rather from within, with explicit reference to its internal structure (see Comrie 1976:24). In more concrete terms, an imperfective situation may be one viewed as in progress at a particular reference point, either in the past or present, or one viewed as characteristic of a period of time that includes the reference time, that is, a habitual situation.”  
(Bybee, Perkins & Pagliuca 1994:125-126)

This quotation explains the connection between imperfective and habitual functions.

Also in this case, there exists a diachronic correlation between the functions of this part of the space (Bybee, Perkins & Pagliuca 1994:170, 172).

ITERATIVE > FREQUENTATIVE > HABITUAL > IMPERFECTIVE

It is evident that the data shown in the *non-prototypical plurality* part of our conceptual space confirms the theories proposed by Bybee, Perkins & Pagliuca (1994) more than twenty years ago.

The authors further proposed a connection between the two paths of grammaticalization (“on the basis of the scanty information we have available” Bybee, Perkins & Pagliuca 1994:172):

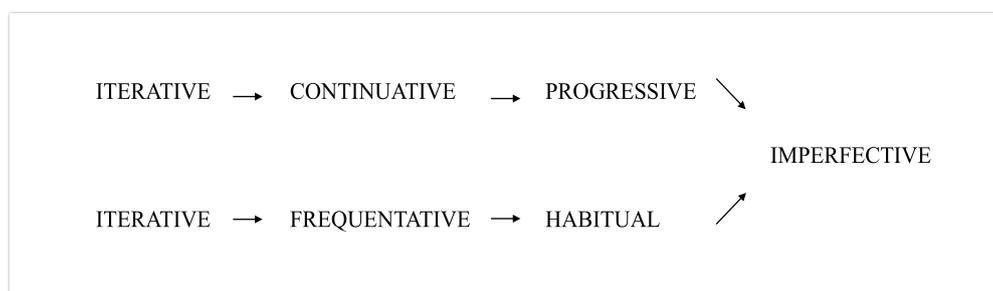


Figure 2.8 – Paths of development of reduplication (adapted from Bybee, Perkins & Pagliuca 1994:172).

This is exactly the part of the pluractional conceptual space described in the present section (except for the presence of event-internal plurality). It is extremely interesting that two different researches (conducted in different years, with different methods, and with different topics) give the same result. This increases the validity of both.

*Reciprocity*. This function is slightly different from the others. In fact, reciprocity is strictly connected with participant plurality.

Usually, a reciprocal situation involves at least two different participants that perform the same action reciprocally. Therefore, in a reciprocal situation there are at least two events performed by two participants. The connection point is the distributiveness parameter (distribution over space and over entities).

## 2.4 Linguistic correlations of the pluractional conceptual space

The explanation presented in previous sections seems to be satisfactory, and the most important aspect is that the linguistic outcome (the conceptual space) and the semantic relationships between the functions seem to match.

Nevertheless, if we observe this conceptual space more in detail, it will be evident that we can draw some other interesting considerations.

Specifically, we have noted that on the map there is a generalization of the meaning of the functions from the left to the right. This generalization also gives some consequent correlations.

Moving from the left to the right on the figure, we can recognize an increasing degree of grammaticalization: the values located on the left part tend to be less grammaticalized. Often they are encoded by lexical or derivational devices. Conversely, the ones on the right part tend to be more grammaticalized, i.e., for example, they tend to be more often marked with inflectional affixes. This is a general tendency and not an absolute statement. This means that it is possible to find languages that encode the functions on the left of the map through constructions that are highly grammaticalized, and, vice versa, languages that mark functions on the right through devices that are not grammaticalized, such as lexical items. This is true in particular for the extreme left periphery of the space. The functions placed in this area,

specifically singulactionality, seem to have a double possibility. We have already noted that they are expressed through less grammaticalized devices (e.g. lexical aspect). However, it is as well possible to find highly grammaticalized strategies that are functionally directed to perfectivity (such as, punctual and bounded action).

The conceptual space also shows another interesting property: in the majority of cases, the functions located on the left part tend to belong to the lexical aspect/Aktionsart system of a language (e.g. semelfactive, repetitive, etc.) and the values on the right tend to be more often functions encoded by markers of verbal aspect (more grammaticalized).

Finally, this conceptual space also shows a connection with telicity. Indeed, the more one goes to the right, the more the unboundedness of the event increases. There is a continuum between telic and atelic situations. In other words, more often singulactional functions are marked on verbs that encode punctual actions or achievements, while the functions that are on the right part can also be applied to stative verbs.

All these correlations seem to be related. They are represented in Figure 2.9.

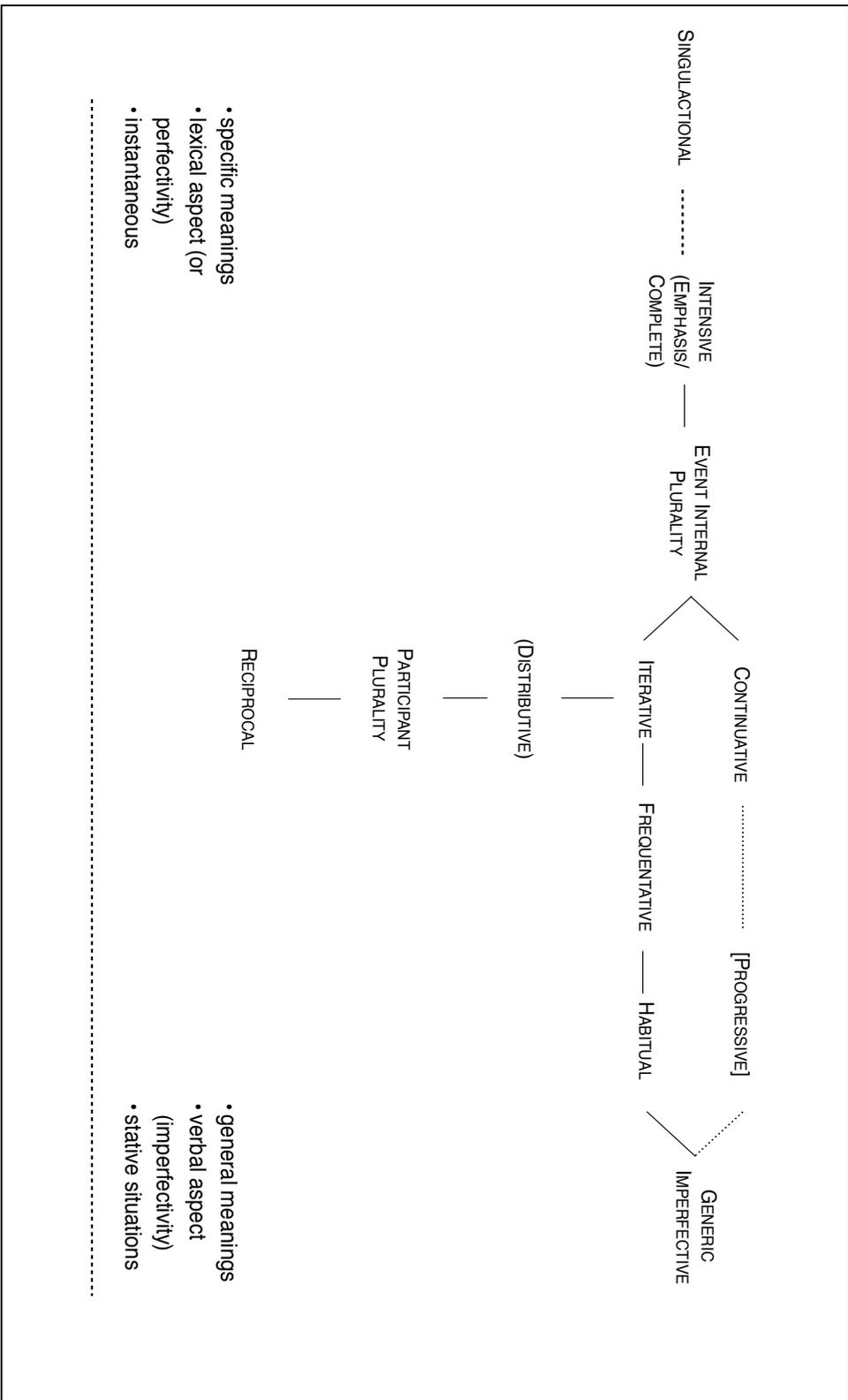


Figure 2.9 – Linguistic correlations of the pluractional conceptual space.

The fact that this conceptual space can say something also about linguistic structures and not only about the semantic relationships between pluractional functions does not necessary make the map more predictable.

Nevertheless, we cannot consider these correlations as incidental facts. Unfortunately, at this stage of the research we can only describe these properties. However, there is an important consideration that can be done: these interesting correlations make us conscious that conceptual spaces are useful in linguistic description and explanation. Certainly, they help us to better understand the functional organization of the phenomena that are under investigation.

### 3. The morpho-syntax of pluractional constructions

This chapter deals with some morpho-syntactic issues concerning pluractional constructions. First, the strategies that the languages of the world use to mark this phenomenon will be presented. They are: affixation, reduplication, and stem alternation. A section will be dedicated to each of them in order to define and offer some examples of the most common strategies that the languages of the world adopt to convey pluractional meaning. Some relative morpho-syntactic problems (such as the formal identification of the strategy) will be also discussed.

Cross-linguistically, the strategies cited above are definitely the most common. However, they are not the only ones. The languages of the world present some other linguistic devices for marking a plurality of situations. For this reason, a section will be dedicated to the rarest strategies.

The last two sections will investigate a crucial issue that involves participant plurality (cf. Chapter 2). Indeed, though from a functional point of view participant plurality and number agreement between the verb and one of its argument (a redundant instance of nominal number) is quite clear, it is not always easy to distinguish these two phenomena from a practical and formal point of view.

Finally, it is important to note here that this chapter is substantially different from Chapter 2. In previous chapter, a completely new method of describing

and explaining the functional domain of pluractionality was proposed (the Semantic Map model), the present chapter has more descriptive goals. There are two reasons for this choice. First, from a morpho-syntactic point of view, pluractional constructions differ greatly among themselves, but at the same time they also show some notably recurrent patterns. In other words, while the strategies of marking seem very limited in number (only three), the languages of the world also present several other devices that are not common cross-linguistically, but that are very pertinent from a language-specific point of view. This makes it hard to propose generalizations that can be considered truly universal. Often, in a single language numerous ways to encode pluractionality co-exist. In any case, it seems that there does not exist a real correlation between functions and the corresponding formal devices, that is, the same morphological strategy can convey several pluractional functions and consequently none of them has a single, specific function. In order to better comprehend and to give an exhaustive account on this matter, more precise and deep analyses are needed. So far, it has not been possible to conduct this type of work, mainly because of the widespread lack of data and investigations on specific languages.

### 3.1 Affixation

We can say that derivational affixation is probably the most common strategy in the languages of the world for encoding a plurality of situations. It is possible to find prefixes, infixes, and suffixes in all the macro-areas of the world (North America, South America, Africa, Europe, Asia, and Oceania/Papunesia<sup>19</sup>).

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<sup>19</sup> We adopt the geographical macro-areas proposed by Hammarström et al. (2016).

(1) Prefixation

a. Kuot (Isolate, Papunesia)

*u-me*            *da-karət=on*            [*i-sik*            *kapuna*]  
3MSG-HAB    PLAC-bite=3MSG    3M-DEM            dog(M)

‘that dog bites a lot’

(Lindstrom 2002:7)

b. *Tukang Besi* (Austronesian, Malayo-Polynesian)

*no-para-langke*            *di*            *Maluku*  
3R-ITER-sail            OBL    Maluku

‘They frequently sail in Maluku.’

(Donohue 1999:284)

c. Boumaa Fijian (Austronesian, Malayo-Polynesian)

*era*    *dau-‘ani-a*            *ni*    *sigs*    *ni*            *sucu*    *a*  
3PL    HAB-eat-TR            on    day    ASSOCIATED    birth    ART  
*uvi,*    *e*            *tei*            *i+na*            *Junee*  
yam    3SG    planted            in+ART            June

‘they would generally eat, on Christmas Day (lit: day of birth), yams which had been planted in June’

(Dixon 1988:196)

(2) Infixation

a. Mupun (Afro-Asiatic, Chadic)

i.            *wu*            *gap*            *pak*            *lua*            *lusim*  
3M            cut.SG    some    meat    leopard

‘he cut a piece of leopard meat’

(Frajzyngier 1993:60)

- ii. *wu grəp pak lua lusim*  
 3M cut.PL some meat leopard  
 ‘he cut leopard meat into pieces’  
 (Frajzyngier 1993:60-61)

b. Koasati (Muskogean, Alabaman-Koasati)

SINGULAR	PLURAL	GLOSS
<i>aká:non</i>	<i>akásnon</i>	‘to be hungry’
<i>akopí:lin</i>	<i>akopíslin</i>	‘to knock something over’
<i>apí:lin</i>	<i>apíslin</i>	‘to throw something away’
<i>anó:lin</i>	<i>anóslin</i>	‘to devour something’
<i>maká:lin</i>	<i>makáslin</i>	‘to open the eyes’

(Kimball 1991:327)

(3) Suffixation

a. West Greenlandic (Eskimo, Inuit)

*saniqquti-qataar-puq*  
 go.PST-ITER-3SG.IND  
 ‘He went past several times/again and again’  
 (Fortescue 1984:283)

b. Khwe (Khoe-Kwadi, Khoe)

*N|ĩ áva-dji ||x’áà-i-ti-tè.*  
 DEM clothes-3PL.F wash-IMPS-FREQ-PRS  
 ‘These clothes have been washed often.’  
 (Kilian-Hatz 2008:147)

c. Wardaman (Yangmanic)

*bardab-marla*      *ya-0-yuju*      *ngamanda-wu*  
 look.around-ITER      3-3SG-AUX-PRS      what-DAT

‘What does he keep looking around for?’

(Merlan 1994:192)

d. Huallaga Huanuco Quechua (Quechuan, Central Quechuan I)

*Chay-pita*      *paka-ykacha-y+lla+pa*      *qeshpi-ku-rqa-:*  
 that-ABL      hide-ITER-ADV      escape-REFL-PST-1

‘After that I escaped, hiding here and there’

(Weber 1989:150)

e. Kolyma Yukaghir (Kolymic, Yukaghir)

i.      *tamun-ge*      *per̄i:+No:t*      *gude-j*  
          that-LOC      wing-TRNSF      become-INTR:3SG

‘Then it turned into wings.’ [F7]

(Maslova 1999:255)

ii.      *but'in-ben+No:t*      *gud-uj-de*  
          [various-RELN+TRNSF      become-MULT-SS:MULT]

*tude*      *t'uge*      *ahite-s'-u-m*

his      trace      hide-DISTR-0-TR:3SG

‘He turned into various things (constantly) and was hiding his traces (everywhere).’ [F44]

(Maslova 1999:255)

f. Latvian (Indoeuropean, Balto-Slavic)

SEMELFACTIVE

ITERATIVE

*gult* ‘to lie’

*gulšņavāt*

‘to lie around’

*knābt* ‘to peck’

*knābāt*

‘to keep pecking’

<i>vērt</i> ‘to open’	<i>virināt</i>	‘to keep opening’
<i>braukt</i> ‘to drive’	<i>braukalēt</i>	‘to keep driving without a purpose’

(Kalnača 2014:200)

The examples confirm that these devices can be found in different geographical areas. However, while suffixes can be found almost anywhere, prefixes and infixes are not very widespread. They occur in languages of Oceania and Papunesia (in particular in the Malayo-Polynesian branch of Austronesian family), and in some African and North American languages.

### 3.2 Reduplication

While affixation is the most common strategy, reduplication is probably the most widespread, that is, it can be found in every part of the world too, though less frequent than affixation.

This fact can be easily explained. Cross-linguistically reduplication is commonly used in order to encode a function that is connected with the concept of plurality, independently by the lexical category. This is mainly due to the fact that reduplication is iconically connected with plurality and related notions, i.e., reduplicated forms are iconic.

For example, Mithun (1988:218) notes that in North American languages:

“The most common form of number marking over multiple lexical categories is reduplication. In some North American languages, such as those in the Algonquian and Pomoan families, only verbs are reduplicated. In many languages, however, the same reduplicative processes that mark number on verbs also appear on nouns and even adjectives. [...] Reduplication of verbs

usually serves a prototypical verbal function of distribution. [...] Reduplication can also be extended to adjectives, still with the same basic function, distributing the quality expressed over time, space, or individuals, rather than over a static group as a whole.” (Mithun 1988:218)

In the languages of the world, several types of reduplication can encode pluractional functions. In the following examples, some cases of partial reduplication are presented.

(4) North America: Yurok (Algic)

*kich peg~pegoh ku 'yohlkoych'*

PRF RED~split ART log

‘I made the log into kindling (split it multiple times)’ (ew 2:6) [cf. *pegoh(s)*, ‘to split’]

(adapted from Wood 2007:148)

(5) South America: Jarawara (Arawan, Madi-Madiha)

*noho~ho na-wahe-ba-no-ho*

be.hurt.by~RED AUXb-next.thing-FUT-IPnM-DEP

‘He had then been injured in several places (by the jaguar clawing his arm)’

(adapted from Dixon 2004:277)

(6) Africa: Hausa (Afro-Asiatic, Chadic)

*Taa tat-tàbà hancìntà*

3SG.F.PF RED~touch nose.her

‘She tapped her nose/touched her nose repeatedly’

(Součková 2011:106)

(7) Oceania/Papunesia:

a. Daga (Dagan)

- i. *baraen* → *bararaen*  
‘he put’ ‘he put and put until full’
- ii. *wadiamopen* → *wadidiamopen*  
‘to teach them’ ‘to teach several groups’

(Murane 1974:73)

b. Tamnim Citak (Nuclear Trans New Guinea, Asmat-Kamoro)

- i. *erém* → *ér~erém*  
‘to tear something’ ‘to tear something to  
pieces’
- ii. *sim* → *sí~sim*  
‘to shift something’ ‘to shift something  
repeatedly’

(Voorhoeve 1965:51)

(8) Asia: Paiwan (Austronesian, Paiwan)

*ka-keLem-an ti kalalu ni zepul.*

RED~beat-LV NOM.PS.AG Kalalu GEN.PS.SG Zepul

‘Zepul beats Kalalu very often.’ (San: BrownJan: 26)

(Chang 2006:147)

The most common type is undeniably partial reduplication, while total reduplication is less frequent. Nonetheless, it is noteworthy that the occurrences of total reduplication are found almost only on monosyllabic verbs, in which this strategy is the only way to apply reduplication. This situation raises the question on whether total reduplication is truthfully an actual pluractional marking. The answer is probably positive mainly because though total reduplication can be found extensively on monosyllabic verbs, it sometimes affects also some pluri-syllabic verbs (cf. (10) and (11)).

(9) North America: Euchee (Isolate, North America)

- a. *Wedoshe*  
*we-do-she*  
3SG(NE).PAT-1SG.ACT/PLUS-hide  
'I'm hiding from him.' (in one place)  
(Linn 2001:233)
- b. *wesheshe*  
*we-she-she*  
3SG(NE).ACT-hide~RED  
'He's hiding/He keeps moving around.'  
(Linn 2001:233)

(10) South America: Shipibo-Konibo (Panoan, Mainline Pano)

*Jaino-a-x-ki*                      *bewa~bewa-kain-i*    *ka-a*    *iki*,  
there:LOC-ABL-S-HSY2        sing~sing-AND1-SSSS go-PP2 AUX  
*onis~onis-kain-i*                *ja*    *joni-n*        *bi-[y]ama*  
be.sad~be.sad-AND1-SSSS    that    man-ERG        get-NEG:PP2  
'Then she left singing and singing, feeling sad, very sad, the one the man  
didn't take as wife'  
(adapted from Valenzuela 2003:151)

(11) Africa: Jamsay (Dogon, Plains Dogon)

*[dójú lé]*                      *ñù:-sěy<sup>n</sup>*                      *yó≡kùn-Ø*  
[under in]                      millet.L-grain                      exist≡be.in.L-3SG.SBJ  
*[kò ñú: kù<sup>n</sup>]*                      *gɔ̃:n-sà-bà*                      *dèy*,  
[DEM millet DEF]                      take.out-RSLT-3PL.SBJ                      if,  
*pélgé~pélgé-sà-bà*                      *dèy*  
sift.in.hand~sift.in.hand-RSLT-3PL.SBJ                      if

‘There is millet grain in it underneath (=in the ant nest). When they have taken that millet out, and when they have sifted it and sifted it (in their hands, to remove the sand), ...’ [2004.4.28]

(adapted from Heath 2008:440)

(12) Oceania/Papunesia: Kayardild (Tangik)

*waldarra jabi~jabij, kurumbu*  
moon.NOM shudder~RED-ACT1 barbed.spear.NOM

*bula-a-nangku*

pull-M-NEG POT

‘Moon shuddered and shuddered, but the spear could not be pulled out’

(adapted from Evans 1995:290)

(13) Asia: Burushaski (Isolate, Asia)

*e:gićumane-e:gićumane*

*e:giću-mane-RED*

sow-PFV-while-RED

‘(while) sowing continuously’

(adapted from Munshi 2006:226)

The only geographic area in which it is almost impossible to find reduplication is Europe. There are two reasons for this absence: (i) in the languages of Europe, it is hard to find real pluractional markers (except for some languages of the Caucasus); these languages adopt different strategies for marking the plurality of the situations (such as adverbs, analytical strategies and periphrases); and, (ii) reduplication is not a common device in Europe, and in the modern Indo-European languages spoken in this continent (though it does occur in the Indo-Iranian branch). The only European language that uses a sort of reduplication in order to mark a frequentative reading is Hungarian (Uralic). Nevertheless, in this case the segment that is

reduplicated is not the verb stem, but any preverbal prefix that is present. For example: *meg-áll* ‘PFX-stop, come to a halt’, *meg~meg-áll* ‘stop repeatedly’; *ki-megy* ‘OUT-go, go out/leave’, *ki~ki-megy* ‘go out repeatedly’, and so on (Kenesei et al. 1998:360).

### 3.2.1 Total reduplication and repetition: grammatical vs. textual/pragmatic functions

As was previously noted, repeating a word is one of the most common strategies for expressing plurality. However, not all the repetitions have the same grammatical status. One of the main issues concerning total reduplication is whether it can be distinguished from a simple repetition of a word, i.e., a textual repetition. Even though it can appear easy to distinguish the two phenomena (that are actually different), it is not always the case, at least from a theoretical point of view.

Gil (2005) defines this distinction as follows:

“*Repetition* and *reduplication* are superficially similar phenomena characterized by the iteration of linguistic material. By definition, repetition and reduplication differ in the following way: whereas repetition applies across words, and is therefore subsumed under syntax or discourse, reduplication applies within words, and is consequently taken to be part of morphology.”  
(Gil 2005:31)

In other words, while the product of total reduplication will be a single word, the final product of repetition is two (or more) words repeated. At least two facts emerge from this quotation: (i) the pivotal role in this distinction is played by the concept of *word*; and (ii) while total reduplication can be

considered an actual strategy for marking pluractionality because it ‘directly modifies the form of the verb’, repetition cannot, because it does not involve a grammatical modification of the verb stem, but it works at a clausal or discourse level. While the former fact is probably more central in general terms, it will not be addressed here, in order to avoid opening the Pandora’s box of the formal identification of *word*<sup>20</sup>. On the other hand, the latter fact plays a pivotal role for the purposes of this work.

As often happens in linguistics, the distinction between these two phenomena is not as clear-cut as it seems. In the majority of cases, in real textual situations, this distinction does not emerge straightforwardly. Gil (2005) proposes six ‘operational’ criteria that might work also on a cross-linguistic level (cf. Table 3.1).

	Criterion	Repetition	Reduplication
1	<i>Unit of input</i>	Greater than word	Equal to or smaller than word
2	<i>Communicative reinforcement</i>	Present or absent	Absent
3	<i>Interpretation</i>	Iconic or absent	Arbitrary or iconic
4	<i>Intonational domain of output</i>	Within one or more intonation groups	Within one intonation group
5	<i>Contiguity of copies</i>	Contiguous or disjoint	Contiguous
6	<i>Number of copies</i>	Two or more	Usually two

Table 3.1 – Criteria to distinguish repetition and reduplication (Gil 2005:33)

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<sup>20</sup> For a wider discussion of this highly debated topic, cf. some basic manuals of morphology, in particular Bybee (1985) and Haspelmath (2002) and the references cited therein. For some considerations on this issue, but related to reduplication/repetition distinction, cf. Gil (2005).

Sometimes, the textual repetition of some verbs can encode a pluractional function. For example, in the English sentence *He went, went, went, and then arrived* the repetition of the verb is a textual/poetic alternative for *He went for a long time and then arrived*, in which the prepositional phrase encodes more directly the iterative/continuative action.

In this work pluractionality is defined as the expression of a plurality of situations encoded by the verb through any linguistic mean that modifies the form of the verb itself (cf. Chapter 1). Consequently, it is not sufficient that a construction expresses a plurality of situations to make it an actual instance of pluractionality. A significant example is provided by Wari' (Chapacuran, Wari') in which pluractional constructions are marked through stem alternation and a particular case of reduplication, that follows the schema  $C_1VrV-$ .

(14) Wari' (Chapacuran, Wari'): Stem alternation

- a. *Xin*        *na-in*  
throw:SG    3SG:RP/P-3N  
'He throws it away'  
(Everett & Ken 1997:337)
- b. *Wixicao'*   *na-in*  
throw:PL    3SG:RP/P-3N  
'He throws them away'  
(Everett & Ken 1997:338)

(15) Wari' (Chapacuran, Wari'): Partial reduplication

- a. *Wixicao'*   *na-in*  
throw:PL    3SG:RP/P-3N  
'He throws them away'  
(Everett & Ken 1997:338)

- b. *Wixicaracao' pi' pin na-in*  
 throw:PL<RED> finish completely 3SG:RP/P-3N  
 'He threw them all away'  
 (adapted from Everett & Ken 1997:338)

This example is interesting also because it shows how a strategy can be applied to a former plural stem in order to express a totality of participants. However, in Wari' it is possible to repeat a verb to express a plurality of situations.

(16) Wari' (Chapacuran, Wari'): Repetition

*to' 'ac xucucun na, to' to' to' to', nana*  
 hit travel REFL:3PM 3SG:RP/P hit hit hit hit stop

'Then they hit each other, they hit (each other) repeatedly (or kept on hitting each other), and stopped'

(Everett & Ken 1997:325)

We can assert that, even though the function expressed is semantically similar to iterative and frequentative readings, this is not a case of pluractionality. The strongest evidence for this statement is provided by the fact that the verb is repeated more than twice, i.e., four times, and in addition the words are not conceptualized as a single lexeme, but as different repeated words (cf. criteria 1, 5, and 6 proposed by Gil 2005). In addition, in (16) there is also a functional trait that offers us a further proof. The example does not convey a real repetition of a situation, but a succession of different events: specifically, several instances of 'hitting' and an instance of 'stopping'. This is not a truly iterative/frequentative reading, though it is semantically extremely similar (by chance). It is also possible to replace the repetitions of the verb 'to hit' with other verbs and the grammaticality of the sentence will not be affected.

This situation can be observed in several other languages, including some that do not present pluractional constructions at all.

For example, the repetition of the third singular imperative form in Italian gives an iterative reading, though Italian (Indo-European, Romance) does not present real pluractional constructions.

(17) Italian (Indo-European, Romance)

- a. *Verso Milano non vo di certo; dunque vo verso l'Adda. Cammina, cammina, o presto o tardi ci arriverò.* (Alessandro Manzoni, *I promessi sposi* 1840, 17.1)

[I'm certainly not going towards Milan, so I must be going towards the Adda. Walk away, then [lit. walk, walk]; sooner or later, I shall get there.]

(Thornton 2009:236)

- b. *il governatore designato vescovo cercò di fuggire verso Pavia ma per superlativo miracolo gli si voltò la strada davanti ai piedi e, cammina cammina, il domani all'alba si ritrovò di bel nuovo alle porte di Milano* (La Repubblica corpus)

[the governor that had been made bishop tried to run away towards Pavia, but by a superlative miracle the street turned around in front of his feet and, walk walk, the next day at dawn he found himself again at the gates of Milan].

(Thornton 2009:236-237)

In the case of pluractionality, some other criteria can be added to the ones proposed by Gil (2005). Specifically, at least two additional facts help to distinguish pluractional total reduplication from repetition. The functions of repetition seem to be driven more by textual or pragmatic goals, rather than grammatical ones. This aspect can be verified by observing the genres of the texts in which we more often find repetitions, i.e., mainly narrative texts (for

example, in the Italian novel of nineteenth century, *I promessi sposi* by Alessandro Manzoni). In addition, it is extremely interesting that repetition does not seem to be the more grammatical device for marking a plurality of situations (i.e. a stylistic choice). The latter circumstance is certainly true both for Wari', in which there are actual pluractional markers (both stem alternation and partial reduplication), and Italian in which the repetition of *cammina cammina* ('walk, walk') can be substituted with another more grammatical form, such as the gerund *camminando* (by walking) (Thornton 2009:236). These two characteristics are very important for our purposes because though they are not always applicable, they can be helpful in several other circumstances.

Finally, at least another fact deserves mention. From a diachronic point of view, it is highly plausible that the source of pluractional reduplication is exactly this kind of repetition. In other words, it is probable that such textual/pragmatic situations in which a verb form is repeated to encode a sort of extension of the action gave rise to a process of grammaticalization that has firstly led to total, and then to partial reduplication. Unfortunately, we do not have any diachronic data to scientifically demonstrate this path, and, in addition, it is not the purpose of this section to deepen this topic. Thus, it remains a simple consideration that, however, deserves to be noted.

The criteria theorized by Gil (2005) and the specific ones for pluractionality proposed in this section cannot be considered universal and definitive. This is mainly because each language has its own specific constructions and, consequently, its own formal ways for distinguishing these two phenomena. The fundamental difference between repetition and reduplication remains their different functions, that is, while the latter works on a morphological basis and has a grammatical function, the former works on a discourse or syntactic level and tends to have a more textual/pragmatic value.

In conclusion, the criteria analyzed in this section are extremely useful from an operational point of view. At the theoretical level, they probably are not as

strong as they should be and, thus, they cannot be applied to all languages of the World. In addition, it became also evident why it is important to define pluractionality expressing also the locus of marking, that is, because in this aspect reduplication and repetition differ.

### 3.3 Stem alternation

Cross-linguistically, a third strategy for marking is particularly widespread: stem alternation. By stem alternation we intend two verb stems that are completely different from a morphological point of view, and share a very similar lexical meaning, but while one stem has a singular reading, the other one has a plural reading.

(18) Ngiti (Central Sudanic, Lenduic)

SINGULAR	PLURAL	
<i>aràta</i>	<i>owuta</i>	‘to go’
<i>iràta</i>	<i>iwúta</i>	‘to come’
<i>adita</i>	<i>okota</i>	‘to sit down’
<i>idèta</i>	<i>ikòta</i>	‘to get up, to stand’
<i>ɔkuta</i>	<i>otseta</i>	‘to run away’
<i>ikuta</i>	<i>itsétá</i>	‘to run toward’
<i>ingota</i>	<i>inzuta</i>	‘to return here from’
<i>ongota</i>	<i>onzuta</i>	‘to return there from’
<i>ayita</i>	<i>oyita</i>	‘to lie down’
<i>ahuta</i>	<i>uvòta</i>	‘to leave’
<i>itsita</i>	<i>avhàta</i>	‘to fall’

(Kutsch-Lojenga 1994:283)

(19) Koasati (Muskogean, Alabaman-Koasati)

- a. SINGULAR PLURAL  
*haccaá:lin hikkí:lin lokkó:lin* ‘to stand’  
*cokkó:lin cikkí:kan í:san* ‘to sit’  
(Kimball 1991:323)
- b. SINGULAR/DUAL PLURAL  
*illin hápkan* ‘to die’  
*óntin ilná:kan* ‘to come’  
(Kimball 1991:323)
- c. SINGULAR PLURAL  
*hókl̄n áłlin* ‘to put something in’  
*naksáhkan sakáplin* ‘to make noise’  
(Kimball 1991:323)

In contrast with the other two strategies, in the majority of cases, stem alternation encodes a specific pluractional function: participant plurality (i.e., plurality of situations and participants involved).

(20) Koasati (Muskogean, Alabaman-Koasati)

- a. *okipófkak o:wá:y*  
*okipófkak o:w-á:y*  
whale-SBJ in.water-go\_about.SG/DU  
‘A whale is swimming about’  
(Kimball 1991:446)
- b. *okipófkak o:wá:yá:c*  
*okipófkak o:w-á:yá-:c*  
whale-SBJ in.water-go\_about.SG/DU-3NON.SG  
‘Two whales are swimming about’  
(Kimball 1991:446)

- c. *okipófkak o:yomáhl*  
*okipófkak o:-yomáhl*  
 whale-SBJ in.water-go\_about.PL  
 ‘There are some whales swimming about’  
 (Kimball 1991:446)

The participant involved tends to be the patient of transitive clauses and the only semantic role expressed in intransitive clauses, independently of its value (it can be an agent, a patient, etc). Durie (1986) notes that usually these arguments represent the participant most affected by the action.

From a distributional point of view, this strategy of marking pluractionality can be found almost everywhere, but it is more widespread in the languages of North America (cf. (19), (20), and (21)).

(21) North America: Hopi (Uto-Aztecan, Northern Uto-Aztecan)

- a. *taaqa taavot niina*  
 man cottontail killed(SG./DU.)  
 ‘The man killed a cottontail.’  
 (adapted from Hill 1998:878)
- b. *taaqa taataptuy qöya*  
 man cottontail.PL killed(PL. OBJ.)  
 ‘The man killed (three or more) cottontails.’  
 (adapted from Hill 1998:878)

(24) South America: Shipibo-Konibo (Panoan, Mainline Pano)

- a. *ja-0-ra Kako-nkonix jo-ke.*  
 3-AB-AS Caco-from:INTR come-CMPL  
 ‘(S)he came from Caco.’  
 (Valenzuela 1997:49)

- b. *ja-bo-0-ra*    *Kako-nkonix*    *be-kan-ke.*  
 3-PL-AB-AS    Caco-from:INTR    come:PL-PL-CMPL  
 ‘They came from Caco.’  
 (Valenzuela 1997:49)

(25) Africa: Sandawe (Khoisan, Central Khoisan)

- a. *mátó=sí*    <sup>↓</sup>*síyé*  
 gourd=1SG    SV.take:SG  
 ‘I took a gourd.’  
 (Steehan 2012:136)
- b. *mátó=sí*    *tí'àá*  
 gourd=1SG    take:PL  
 ‘I took gourds.’  
 (Steehan 2012:137)

(26) Oceania/Papunesia: Imonda (Border, Waris)

- a. *ōh-nèi ka*    *sě*    *fā-ne-uōl*    *fe-f-me*  
 PX-SRC 1    NEG    CL-eat-PL    do-PRS-NEG  
 ‘I do not customarily eat this’  
 (Seiler 1985:86)
- b. *aia-m*    *kles*    *ue-hla-f*  
 father-GL    mosquito    CL-eat-PRS  
 ‘Father is stung by mosquitos.’  
 (Seiler 1985:82)

(27) Asia: Ainu (Itadori dialect) (Isolate, Asia)

- a. *An-an.*  
 be-1SG  
 ‘I was (there)’  
 (Shibatani 1990:50)

- b. *Oka-an.*  
 be(PL)-1PL  
 ‘We were (there).’  
 (Shibatani 1990:51)

(28) Europe: Ingush (Nakh-Daghestanian, Nakh)

- a. *Yzh itt chy-vuoda*  
 DEM.PLten in-VV.go.PRS  
 ‘The ten of them go in.’  
 (Nichols 2011:313)

- b. *Yzh chy-bolx*  
 3PL in-B.go:PL.PSR  
 ‘They go in.’  
 (Nichols 2011:313)

It is also important to say that stem alternation usually affects only few verbs in a language. The number can vary, but they are usually between one to eighteen verbs. For example, in (18) all the stem pairs of Ngiti are listed, and there are only 11. In any case, the set of verb pairs of Ngiti is one of the largest in the languages of the world. Veselinova (2006) found 33 languages that show stem alternation, and she lists the number of verbs generally involved:

“The number of such verbs per language shows greater variation when compared with the number of suppletive verbs according to tense-aspect or imperative. In approximately half of the languages such verb pairs/triples are between 1 and 4; in another group of 7 languages the number of such verbs ranges between 5 and 7; finally, 9 languages show 10 and more such verbs.”  
 (Veselinova 2006:153)

At the same time, while languages display only few stem pairs, the verbs involved are often some of the most frequent within the language, such as ‘to go’, ‘to kill’, ‘to die’, etc. Mithun (1988:213) lists the most frequent verbs that present two stems alternating for number in North American languages, and they are: ‘to sit’, ‘to lie’, ‘to stand’, ‘to go’, ‘to walk’, ‘to run’, ‘to fly’, ‘to die’ (intransitive verbs), ‘to take’, ‘to pick up’, ‘to carry’, ‘to throw’, ‘to kill’ (transitive verbs).

### 3.3.1 Suppletion vs. stem alternation

Often it is possible to find grammars and descriptions that refer to stem alternation as a case of suppletion. However, what here is called stem alternation does not seem to be a strict case of suppletion.

In the literature, there are obviously two positions concerning this issue. The first one conceptualizes the stem pairs presented in this section as a case of separate lexical items that cannot be described as suppletive stems. This position is supported mainly by Mithun (1988). The second one proposes understanding such pairs as a non-prototypical case of suppletion, i.e., an intermediate situation between separate lexical items and suppletive stems. This position is supported mainly by Veselinova (2006).

In linguistics, suppletion is usually defined as an alternation between forms that do not have any phonological similarity, but that are part of the paradigm of the same lexeme (cf. Bybee 1985, Mel’čuk 1994, Haspelmath 2002, Booij 2005, among others). A typical example is provided by the English alternation between the two forms of the verb ‘to go’, *go* and *went*. In this case, what conditions the alternation is the value of English Tense, Present Simple in *go* and Past Simple in *went*; however, though they are completely different, they occupy two different cells of the same paradigm.

The pairs of verb stems presented above do not show any kind of morphological relation, neither derivational, nor inflectional. Their alternation affects a semantic feature of the context, that is, the number of participants involved in a specific occasion. The semantic alternation is not a characteristic of the single verb, but it seems to convey more a contextual property in the sense that these stems involve, at the same time, both a characteristics of the verb and a characteristic of one of its argument. An evidence of the semantic scope of such pairs is provided by the scarce or null relevance that they play in the syntactic context.

(29) Navajo (Athapaskan, Apachean)

a. *shí ashkii bi-t yi-sh-'ash*  
 I boy him-with PROG-1SG-walk.DU  
 ‘I’m walking with the boy.’

(Durie 1986:358)

b. *nihí ta’ di-iid-áál*  
 we subset FUT-1NON.SG-walk.SG  
 ‘One of us will go.’

(Durie 1986:358)

In (29), it is evident that in Navajo the grammatical number of the participant has no relevance for the choice of the verb stem, that conversely follows a semantic basis. Mithun (1988:214) notes that “[t]he primary function of stem alternation is not to enumerate entities, but to quantify the effect of actions, states, and events”. Thus, any kind of grammatical relation cannot be suggested for such pairs. For this reason, it becomes senseless to refer to stem alternation as a case of suppletion that, inversely, requests an inflectional/paradigmatic relation.

Mithun (1988) notes that

“In the strictest sense, suppletion refers to allomorphic alternation conditioned by a systematic inflectional distinction. [...] The implied plurality of effect is a feature of their [pairs of stems] basic meaning. Walking alone is classified lexically as a different activity from walking in a group; speaking is different from conversing; murdering an individual is different from massacring a village. The pairs of verbs are related semantically but not inflectionally.”

(Mithun 1988:214)

Mithun (1988) compares these pairs of verbs with the case of classificatory verbs, which are not related grammatically but by the semantic characteristic of the argument involved.

For example, in Klamath (Isolate, North America) there are four different stems that encode the basic lexical meaning of ‘to give’:

(30) Klamath (Isolate, North America)<sup>21</sup>

*lvoy* ‘to give a round object’

*neoy* ‘to give a flat object’

*ksvoy* ‘to give a live object’

*sʔewanʔ* ‘to give plural objects’

(Barker 1964:176)

In other words, it can be possible to hypothesize that the number of the participants is compared to any other properties of the object, such as its shape or animacy. At the same time, it seems to exist a slight difference between number and other characteristics of objects involved. While the other properties are typical of the object itself, the number seems to be typical of

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<sup>21</sup> This example is also present in Chapter 2 as (9).

the whole occasion because implicates a plurality of the situations that affects also the meaning of the verb.

The core of the problem that is under investigation in this section is the strictness of the definition of suppletion. In fact, the main difference between the two approaches to stem alternation depends on the type of definition given for suppletion. Veselinova (2006) adopts a wider definition of this phenomenon than that proposed by Mithun (1988):

“The term suppletion is typically used to refer to the phenomenon whereby regular semantic and/or grammatical relations are encoded by unpredictable formal patterns.”

(Veselinova 2006:xv)

In this sense, she extends the scope of suppletion to situations in which there is no paradigmatic alternation. This position leads to including derivational patterns as suppletive.

In any case, we believe that often in linguistics it is more important to maintain a certain specificity in the definitions of some phenomena. This strictness is useful for avoiding a possible bleaching of their descriptive value and, consequently, also prevents the possibility of a reduction of their explanatory force.

At the same time, Veselinova (2006) presents interesting evidence in support to her position. She notes that, from a diachronic point of view, suppletive stems often originate from two different lexemes that, at some point, start to be associated because their similar lexical meaning and with a specific grammatical category (such as number) because their alternation (singular vs. plural). This evolution can lead to conceptualize them as parts of the same paradigm (cf. Veselinova 2006:168). Thus, it can happen that these pairs are considered related first derivationally and then inflectionally.

In other words, she recognizes pluractional stem pairs as a case of suppletion,

though not a prototypical one.

Consequently, in this approach the productivity of such pairs is pivotal for confirming their derivational or inflectional relationship.

“[T]he fact that such words incorporate number in their meaning makes them also prone to become associated with derivational or inflectional processes where verbs are involved such as derivation for plural action and agreement. [...] The verbal number pairs discussed here are only semantically related in languages where the derivation of verbal number is very restricted or the stem selection comes in marked contrast with the rules of syntactic agreement as in Navajo above. However, in languages where the derivation is very wide spread and is used for more general aspectual meanings, these pairs appear also paradigmatically related as in Krongo and languages similar to it. Finally, there are languages such as Shipibo-Konibo above where the verbal number pairs are clear exceptions to general patterns of syntactic agreement. Thus synchronically we can see a scale where lexical expressions for verbal number are only semantically related on the one end and paradigmatically related on the other with a lot of cases in between. So as regards the typology of suppletion, they should be described as intermediate cases between prototypical suppletives and different lexical items. They are not just semantically related lexical items but words which easily evolve into grammatical markers and thus build paradigmatic relations.”  
(Veselinova 2006:173)

This situation can underlie some of these verb stem pairs. A similar diachronic origin and a possible similar development do not make these pairs necessarily suppletive synchronically. Furthermore, Veselinova (2006)

merges two different interpretations of productivity: (i) the applicability of a specific phenomenon within the lexicon, i.e., the number of items involved; and (ii) the frequency with which that phenomenon appears in texts. The verb pairs that alternate are found very frequently in texts because they apply to very common verbs, but they cannot be considered productive from a morphological point of view because they affect only a restricted set of verbs. The frequency of other pluractional derivations, such as the ones in Krongo and Shipibo-Konibo cited by Veselinova (2006), concerns a different type of pluractional constructions that are not grammatically related to stem alternation, but only from a functional point of view. Thus, these additional strategies cannot be taken into consideration in the discussion of stem alternation.

In conclusion, even though the stems that alternate according to the number of participants involved can become cases of suppletion diachronically, they cannot be analyzed as actual cases of suppletion from a cross-linguistic and synchronic point of view, because they do not show any kind of grammatical relationship.

### 3.4 Other marking strategies

Cross-linguistically, the three strategies for marking presented in the previous sections are extensively widespread. However, this remarkable distribution does not make them the only devices that the languages of the world adopt in order to mark pluractionality. In this section, some less frequent strategies for each macro-area will be briefly presented.

In African languages, reduplication and suffixation are the most common pluractional markers. Still, it is also possible to find languages in which such functions are encoded through tonal change (cf. (31)), ablaut (cf. (32)), vowel lengthening (cf. (33)), or a(n) (quasi-)auxiliary (cf. (34)).

(31) Krongo (Kadugli-Krongo, Central-Western Kadugli-Krongo)

BASIC FORM		FREQUENTATIVE FORM	
<i>à-byàani àlàkà</i>	→	<i>a-byàani àlàkà</i>	‘to spit’
<i>ò-kidò-ònò</i>	→	<i>ò-kidòonò</i>	‘to cut off’
<i>ò-kirò-ònò</i>	→	<i>ò-kiròonò</i>	‘to move out’
<i>à-sá-ánà</i>	→	<i>à-sàanà</i>	‘to sow, scatter’

(Reh 1985:206)

(32) Beja (Afro-Asiatic, Cushitic)

a.	<i>ʔawi=b</i>	<i>jhak-s-an=t</i>	
	stone=INDF.M.ACC	get_up-CAUS-PFV.1SG=COORD	
	<i>a-gid.</i>		

1SG-throw\PFV

‘I took a stone and threw it.’

(BEJ\_MV\_NARR\_05\_eritrea\_389)

b.	<i>ti=takat</i>	<i>digi:-ti</i>	<i>ho:so:</i>
	DEF.F=woman	turn_back-CVB.CSL	3SG.ABL
	<i>ge:d-ti=je:b=ka</i>		

throw\INT-AOR.3SG.F=REL.M=DISTR

‘the woman was throwing stones at it away from her.’

(BEJ\_MV\_NARR\_05\_eritrea\_130)

(33) Tima (Katla-Tima)

BASIC FORM		PLURACTIONAL	
<i>ηλλ-í</i>	‘smell it’	→	<i>ηáll</i> ‘smell several times’
<i>dàh-í</i>	‘say sth.’	→	<i>dááh</i> ‘say sth. repeatedly’
<i>mùr-í</i>	‘pick it up’	→	<i>múúr</i> ‘pick up several times’
<i>lòh-í</i>	‘mix it’	→	<i>lóòh</i> ‘mix several times’

(Alamin 2012:105)

(34) Eton (Atlantic-Congo, Volta-Congo)

<i>àŋgábé</i>	<i>dìŋgì</i>	<i>tìl</i>		<i>bɔ˘</i>	<i>kálàdà</i>
à-ŋgá-bé	L-dìŋ-Lgì	L-tìl	H	bò	kálàdà
I-RM.PST-IPFV	INF-HAB-G	INF-write	LT	PL	letter

‘He usually wrote letters.’

(Van de Velde 2008:235)

In North America, reduplication and stem alternation are certainly the most common strategies. Other strategies occur as well, such as substitution of a formative (cf. (35)) and combinations of strategies (cf. (36)).

(35) Hopi (Uto-Aztecan, Northern Uto-Aztecan)

a. Plural Subjects

SINGULAR/DUAL	PLURAL	
<i>tsayo(k-)</i>	<i>tsay.mti</i>	‘pop out of the husk’
<i>ts.akwa(k-)</i>	<i>tsakw.mti</i>	‘wear out’

(Hill 1998:877)

b. Plural Objects

SINGULAR/DUAL	PLURAL	
<i>p.itakna(~ya)</i>	<i>pitamna (~ya)</i>	‘affix, stick on’
<i>ng.l.kna (~ya)</i>	<i>ng.l.mna (~ya)</i>	‘bend’

(Hill 1998:877)

(36) Nuuchahnulth (Wakashan, Southern Wakashan)

a. Reduplication + -š

BASIC FORM	ITERATIVE I FORM	
<i>mitx<sup>w</sup></i> ‘turn’	<i>mitxmitxš</i>	‘turn at intervals’
<i>lu:čaq</i> ‘trap with a deadfall’	<i>lu:lu:čaq</i>	‘trap with a deadfall’

(Davidson 2002:240-241)

b. Lengthening of first two vowels + substitution of  $-\lambda$  with  $-l$

BASIC FORM

*hisa-k<sup>w</sup>is-ačičt-uλ*

there-move.away-on.ocean-PERF

ITERATIVE II FORM

*hi:sa:kwisáčičtu:l*

there-move.away-on.ocean-PERF[ITER]

(Davidson 2002:243)

In South America, it is possible to find mixed strategies (cf. (37)), and also the use of auxiliaries (cf. (38)).

(37) Mapudungun (Araucanian): Reduplication + *-nge-*

*aku-* ‘to arrive’ → *aku-aku-nge-* ‘to arrive bit by bit’

*lүйkü-* ‘to drip’ → *lүйkü-lүйkü-nge-* ‘to drip constantly’

*nengüm-* ‘to move’ → *nengüm-nengüm-nge-* ‘to move constantly’

*ngüma-* ‘to cry’ → *ngüma-ngüma-nge-* ‘to cry constantly’

(Smeets 2008:305)

(38) Barasano (Tucanoan, Eastern Tucanoan)

SINGULAR PLURAL

*roka* *rea* ‘to move down/away, to throw’

*bahi roka* *bahi rea* ‘to die’

*roka roa* *rea rode* ‘to get in water’

(Jones & Jones 1991:24)

In the languages of Oceania and Papunesia, the most common strategy is reduplication. However, in Rapanui the verb that means ‘to go’ can be used

as an auxiliary in order to express iterative, frequentative, distributive, and event-internal plurality.

(39) Rapanui (Austronesian, Malayo-Polynesian)

- a. *E, koroiti koroiti i kai i oho mai ai*  
EXC slow RED PST eat PST go TOW PHO

‘Well they went on eating it and slowly they got used to it.’

(Du Feu 1996:162)

- b. *He ha’aki he oho penei e...*  
ACT announce ACT go like this...

‘They went around announcing that...’

(Du Feu 1996:162)

Then, in languages of Asia (specifically the ones spoken in the Indian sub-continent), it is quite common to find pluractional functions marked through an auxiliary.

(40) Bengali (Indo-European, Indo-Iranian)

*meṅyeti ciṅkar-kôre thake.*

girlCL shout-do.PP stay.3.PRS

‘The girl keeps shouting.’

(Thompson 2012:283)

(41) Brahui (Dravidian, North Dravidian)

“A verbal participle in *-isa* combined with a finite form of the verb *hining* ‘to go’ or *banning* ‘to come’ is used to express a prolonged or regularly repeated action: e.g., *nī kōṣiṣṭ karisa hin* ‘Go on making your efforts’, *ō duṣmanān har vaxt narrisa kāk* ‘He runs away from the enemy every time’, *tīvaḡā dē ōde pārisa bassunūṭ ki daun kappa* ‘The whole day I was telling him not to do so’.”

(Andronov 2001:105)

(42) Hindi (Indo-European, Indo-Iranian)

*bācpān*      *mē*      *həm*      *kābādqī*      *k<sup>h</sup>ela*  
childhood    in      we      kabaddi      play.PFV.M.SG  
*kāte*                      *t<sup>h</sup>e*.  
freq.IPFV.M.PL              PST.M.PL

‘We used to play kabaddi in (my) childhood.’

(Kachru 2006:154)

Finally, also in European languages it is possible to find both internal modification of the verb stem (cf. (43)) and auxiliaries (cf. (44)).

(43) Ingush (Nakh-Daghestanian, Nakh)

SINGULAR	PLURAL	
<i>oll</i>	<i>ellaa</i>	‘to hung up’
<i>ott</i>	<i>ettaa</i>	‘to stand up’
<i>tull</i>	<i>tillaa</i>	‘to put, lay’
<i>xou</i>	<i>xeina</i>	‘to sit down’

(Nichols 2011:314)

(44) Maltese (Afro-Asiatic, Semitic)

a.      *ʔabel ma ipɔddʒu*                      *bi-l-ʔe<sup>o</sup>da*  
avant que INAC3+s’asseoir+PL avec-ART-assise  
*kiənu*                      *jɔʔ<sup>o</sup>du*                      *imissu*  
être+ACC+3PL INAC3+DUR+PL              INAC3+toucher+PL  
*s-siddʒu*  
ART-siège

‘Avant de s’asseoir, elles touchaient la chaise à plusieurs reprises’

(Vanhove 2001:70)

- b.    *wara li      ʔa°du                      j°eddu:-ħ*  
       après que    DUR+ACC+3PL            INAC3+menacer+PL-lui  
       *u                      j°ajtu                                      miə°-u*  
       et                      INAC3+crier+PL                      avec-lui  
       *ħadu:-l-u                                      is-serdu:ʔ*  
       prendre+ACC+3PL-à-lui      ART-coq  
       ‘Après qu’ils l’eurent menace à plusieurs reprises et qu’ils lui  
       eurent crié après, ils lui ont pris le coq’  
       (Vanhove 2001:70)

Though these strategies are rare and thus it is hard to advance some interesting generalizations, they deserved mention in order to show that there exists a wide range of different strategies that are not relevant cross-linguistically, but that can be extremely important and relevant in specific languages.

### 3.5 The problem of participant plurality: syntactic agreement (nominal number) or semantic selection (verbal number)?

An important issue that affects the morpho-syntax of pluractional constructions concerns the possibility of describing participant plurality as an nominal number rather than pluractionality. Often, a device that modifies the verb and that signals the number of entities is described as a case of agreement between the argument (controller) and the verb (target). Consequently, if this situation is true, this phenomenon must be described as an instance of nominal number, i.e., a redundant marking of nominal number.

We have described participant plurality as that value of pluractionality that expresses a situation in which a plurality of situations affects also a plurality of participants. These participants consist in the argument that is most affected by the situation: thus, the patient of transitives (mainly the object,

but not necessarily) (cf. (45)), and the only argument (subject) of intransitives (cf. (46)).

(45) Nass Tsimshian (Tsimshina, Nishga-Gitxsan)

*NLk' ē      ad'ā'd'ik sk<sup>u</sup>L      wī-hē'ldEm      qē'wun.*

then          RED~came          many          gull

‘Now many gulls came.’

(Boas 1902:113.13 cited in Mithun 1988:218)

(46) Nass Tsimshian (Tsimshina, Nishga-Gitxsan)

*NLk' ē      q'ax'q'ayā'ant.*

then          RED~he.clubbed.them

‘Then he clubbed them.’

(Boas 1902:70.9 cited in Mithun 1988:219)

Durie (1986) had deeply investigated this situation in order to understand whether this phenomenon is actually something different from agreement, and, if it is, why it is different. He analyzed a sample of about 40 languages. However, the majority of them are languages spoken in North America and, then, it will be evident why he refers mainly to stem alternation (suppletion/suppletive stems in his words) giving less importance to the other strategies.

Durie (1986) notes, paraphrasing the words of Boas (1911:381), that

“[A] number suppletive verb selects an argument of the appropriate number in much the same way that verbs *select* an argument whose referent has the appropriate form: in the same way, for example, that English verb peel selects an object whose referent has a skin, or that massacre selects an object referring to

a group of people.” [italics is mine]  
(Durie 1986:355)

In this passage, Durie (1986) introduces the pivotal concept of *semantic selection*: a specific verbal construction requires arguments that have some specific semantic properties, such as the form of the objects or the fact of having a skin, that are fundamental for the semantic interpretation of the whole context. As there are verbs that necessitate of an animate argument, for example ‘to breath’ (*the dog is breathing heavily* vs. *\*the rock is breathing heavily*), there are also verbs that semantically require a plural argument in order to encode a coherent situation.

For example:

(47) Pero (Afro-Asiatic, Chadic)

a. *kpéemùn léé-kò*  
woman give\_birth-COMPL  
‘woman gave birth’  
(Frajzyngier 1985:96)

b. *kpéemùn léyyí-kò*  
woman give\_birth-PL<sup>22</sup>  
‘woman gave birth’  
(Frajzyngier 1985:96)

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<sup>22</sup> Here, the gloss seems incorrect or at least confusing. Probably, the correct gloss of *léyyí-kò* should be ‘give\_birth.PL-COMPL’. In any case, since at that time glossing an example was not a common practice and since we are not experts of Pero and Chadic languages, we report the original gloss. The same choice applies also for the example (48).

(48) Pero (Afro-Asiatic, Chadic)

a. *nì-díg-kò*                      *mínà*  
1SG-build-COMPL              house  
'I built a house'

(Frajzyngier 1985:96)

b. *nì-díkkú-jù-kò*                  *mínà*  
1SG-build-PL                      house  
'I built many houses'

(Frajzyngier 1985:96)

In both examples from Pero, the plurality of the objects (most affected argument) in (47b) and (48b) is required by the fact that several actions occur in the actual occasion. Therefore, since it is not possible to give birth several times to the same human being and to build the same house several times, the context necessitates a plurality of entities involved. In other words, the usage of a specific verb requires the presence of a specific type of argument. In these cases, it is the verb that governs the occurrence of an argument, and this requirement seems to work on semantic bases rather than syntactic ones (like agreement does). In syntactic agreement, the opposite is true: it is the argument that requires the presence of a specific marker on the verb.

As previously noted, this kind of situation appears to be clear theoretically, but it is not always easy to distinguish cases of semantic selection from examples of syntactic agreement. For this reason, Durie (1986) proposes five criteria that can be helpful.

The first criterion is the most important and affirms some ideas already presented in this section.

“I. Suppletion is not triggered by a surface syntactic relation; rather it selects for the number of a particular semantic role of the verb.”

(Durie 1986:357)

Semantic selection affects the patient of transitive sentences, and the only argument of the intransitive. From a syntactic point of view, the arguments that are more often affected by the action tend to be the absolutive argument (transitive subject and intransitive subject). It is interesting to note that this works also in languages in which the alignment system is nominative-accusative and not ergative-absolutive. However, it is not completely true to say that semantic selection works following an absolutive-ergative basis because it takes into consideration the semantic rather than the syntactic context. This is particularly evident in the Huichol example (6) analyzed in Chapter 2, repeated here as (49).

(49) Huichol (Uto-Aztecan, Southern Uto-Aztecan)

a. *Nee waakana ne-mec-umi?ii-ri eeki*  
1SG chicken.SG 1SG.SBJ-2SG.OBJ-kill.SG-BEN 2.SG

‘I killed you the chicken for you’

(Comrie 1982:113 cited in Durie 1986:357)

b. *Nee waakana-ari ne-mec-uqi?ii-ri eeki*  
1SG chicken-PL 1SG.SBJ-2SG.OBJ-kill.PL-BEN 2.SG

‘I killed the chickens for you.’

(Comrie 1982:113 cited in Durie 1986:357)

In (49), we can see that the beneficiary is promoted to object status. In both sentences, there is a syntactic agreement marker on the verb. On the other hand, the argument that is most affected by the action is not the direct object (‘you’) that controls the agreement, but the demoted object (‘chicken’). This

is because semantically the argument whose status is mostly modified by a ‘killing’ action is certainly the entity that is killed. Consequently, the plurality of the situations selects a plurality of chickens.

The second criterion is strictly related to the first one.

“II. Where there is discord between the number of participants bearing the appropriate semantic role and the strict morphological Number of the syntactic relation-bearing NP, suppletion will reflect the firmer, agreement the latter.”

(Durie 1986:358)

The verb that expresses a plurality of participants follows the actual number of the most affected participant rather than the formal number value of the argument. The example (29) (repeated here as (50)) is again significant.

(50) Navajo (Athapaskan, Apachean)

a. *shí ashkii bi-l yi-sh-'ash*  
I boy him-with PROG-1SG-walk.DU  
'I'm walking with the boy.'

(Jeanne, Hale & Pranka 1984 cited in Durie 1986:358)

b. *nihí la' di-iid-áál*  
we subset FUT-1NON.SG-walk.SG  
'One of us will go.'

(Jeanne, Hale & Pranka 1984 cited in Durie 1986:358)

In (50a), while the syntactic subject is singular, the action is performed by two participants and consequently the verb stem is dual. The situation is the opposite in (50b), where while the subject is formally plural, the action is performed by a single participant and thus the verb stem is singular.

Both criteria I and II, and the relative examples, show the most relevant

difference between selection-participant plurality and agreement-nominal number, that is, while the former works on a semantic basis, the latter works on a syntactic one. For this reason, it is better to refer to these two phenomena with ‘semantic’ selection and ‘syntactic’ agreement.

The third criterion is particularly relevant.

“III. Stem suppletion may distinguish Number features which are not nominal Number features of the language: that is, they are not formally marked in any way in the nominal morphology, neither by nouns nor pronouns.”

(Durie 1986:360)

This is an interesting aspect that illustrates an imperfect parallelism between nominal number and participant plurality. This is not a frequent case, but some examples can be found in languages of North America. For example, in Mojave (Cochimi-Yuman, Yuman), there exists three verb stems meaning ‘to put in jail’ that distinguish between one, a few, and multiple participants, that is, singular *vs.* paucal *vs.* plural. These values are not symmetrical with those of the nominal system (nouns and pronouns), that contrariwise shows a distinction between singular and plural entities (cf. Munro 1974:38).

(51) Mojave (Cochimi-Yuman, Yuman)

- a. *ʔ-aher-k*            ‘I put him in jail’/‘We put him in jail’
- b. *ʔ-ahi:r-k*            ‘I put them (a few) in jail’
- c. *ʔ-ačhi:r-k*            ‘I put them (many) in jail’

(Munro 1974:15)

This fact is strong evidence that leads us to conceptualize participant plurality and nominal number as two distinct phenomena.

Criteria IV and V both take in consideration formal characteristics of the

languages.

“IV. In syntactic contexts where agreement is characteristically absent, where a language systematically omits agreement morphology to form an infinitive, stems still supplete for number. These contexts include: control constructions, imperative and attributive usage.”

(Durie 1986:361)

An example of this difference is provided by Chickasaw (Muskogean, Western Muskogean). In (52), some forms of two verbs are presented, one that does not alternate for number and one that does. Then, (53) and (54) show how they behave differently in ‘control constructions’, and in imperative constructions.

(52) Chickasaw (Muskogean, Western Muskogean)

- a. *hilha-li* ‘I dance.’
- b. *kii-hilha* ‘We dance.’
- c. *malili-li* ‘I run.’
- d. *kii-tilhaa* ‘We run.’

(Durie 1986:361)

(53) Chickasaw (Muskogean, Western Muskogean)

- a. *malili sa-banna*  
run.SG 1SG-want  
‘I want to run.’

(Durie 1986:361)

- b. *tilhaa po-banna*  
 run.NONSG 1NONSG-want  
 ‘We want to run.’  
 (Durie 1986:361)

(54) Chickasaw (Muskogean, Western Muskogean)

- a. *hilha!* ‘Dance!’ (one or more people)  
 b. *malili!* ‘Run!’ (one person)  
 c. *tilhaa!* ‘Run!’ (more than one person)

(Durie 1986:361)

A similar situation can be found in Kiowa (Kiowa-Tanoan). Also in this case, (55) shows verbal agreement in Kiowa, while (56) shows how a verb that alternates for number works when it is used attributively (in Kiowa stative verbs can be used as adjectives in an attributive construction).

(55) Kiowa (Kiowa-Tanoan)

- a. *á·-dò è-cél*  
 tree-INV 3INV-set.NONPL  
 ‘A tree is standing there.’  
 (Watkins 1984 cited in Durie 1986:359-360)
- b. *á· è<sub>7</sub>-cél*  
 tree 3DU-set.NONPL  
 ‘Two trees are standing there.’  
 (Watkins 1984 cited in Durie 1986:359-360)
- c. *á· Ø-sól*  
 tree 3PL-set.PL  
 ‘Trees (more than two) are standing there.’  
 (Watkins 1984 cited in Durie 1986:359-360)

(56) Kiowa (Kiowa-Tanoan)

- a. *tʰàlì·-kyó*  
boy-tall.SG  
'(one) tall boy'  
(Durie 1986:361)
- b. *tʰàlì·-kí·ní·*  
boy-tall.NONSG  
'(two) tall boys'  
(Durie 1986:361)
- c. *tʰàlì·-kí·ní·-gò*  
boy-tall.NONSG-INV  
'(more than two) tall boy'  
(Durie 1986:361)

Finally, the criterion V proposed by Durie (1986) states that:

“V. Stem suppletion for number is preserved in derivational word formation, but inflectional agreement is not.”  
(Durie 1986:361)

Agreement markers do not appear on a specific form when it is used as a base for a derivation because they pertain to the syntactic context, and not to morphology. Conversely, both of the stems that alternate can be used as base to derive another lexeme. This is because they play a central role for the semantics of the context and thus the semantic distinction that they convey is pertinent also for the derived form.

For example, in Moses-Columbian (Salishan, Interior Salish) there are several deverbal nouns that are derived by the stems that encode participant plurality, while in Kiowa there are some deverbal adverbs derived starting from the same type of base.

(57) Moses-Columbian (Salishan, Interior Salish)

*táq-lx*      ‘sit.sg’                      →    *ktqlz-áwsn*      ‘chair’  
*yər-íx*      ‘sit.NONSG’                      →    *(n)k-yər-x-áwsn* ‘chairs.NONSG’

(Kinkade 1977 cited in Durie 1986:362)

(58) Kiowa (Kiowa-Tanoan)

*ét*            ‘big.sg’                                      →    *ét-té*                      ‘a lot’  
*bîn*           ‘big.nonsg’                                      →    *bîn-dè*                      ‘a lot, much’

(Watkins 1984 cited in Durie 1986:362)

The criteria presented in this section are useful, but they also raise some issues that cannot be underestimated. The first criterion is obviously the most important; it represents the basic distinction between semantic selection and syntactic agreement. In any case, it is not always possible to prove its validity. A similar consideration can be pointed out for the other criteria (II, III, IV, and V). They are extremely significant and helpful to distinguish participant plurality and nominal number, but at the same time they are not applicable to all the situations. Specifically, the criteria require that both phenomena are present at the same time in the same context. This is something that can be applicable in a language-specific analysis, but it is definitely less pertinent in cross-linguistic perspective. In addition, none of them is completely decisive alone (except maybe for I), but only their co-occurrence can provide some strong evidence. In other words, though they are certainly valuable, these criteria cannot be considered universally valid. As for the criteria analyzed to distinguish (total) reduplication and repetition, the ones proposed by Durie (1986) are powerful ‘operational’ tools, but they do not solve the question on a theoretical and typological point of view. This limited applicability is mainly due to the fact that they work mainly on the formal level of the language (syntax, morphology), i.e., the level that is more hardly comparable cross-linguistically.

In conclusion, though these criteria can be useful in some situations for distinguishing a case of semantic selection (i.e. the participant plurality, i.e. a pluractional value) from a case of syntactic agreement (i.e. nominal number), the only difference that is universally valid remains the functional one: while the function of syntactic agreement is to express redundantly the value of number of a referent involved in a situation, the main function of participant plurality is the one of “quantify the effect of actions, states, and events” (Mithun 1988:214) on the participants involved in the situation.

## 4. Pluractional constructions: some case studies

This chapter deeply investigates how pluractional constructions work in specific languages. The case studies provided in what follows have also the purpose to verify the statements and the results that were argued in previous chapters.

We believe that in a large-scale typological work it is mandatory to testify the general assumptions and the generalizations found through the cross-linguistic comparison and analysis. This is possible observing how the phenomena work in specific languages. This stage of the work is particularly important because the inter-linguistic investigation does not permit to explore in detail what actually happens in a such large number of languages. Consequently, it is possible that some interesting and crucial issues do not emerge. It becomes essential that at least one of languages examined in the case studies does not belong to the sample adopted for the cross-linguistic analysis.

For all these reasons, in what follows we will present and discuss how pluractional constructions work in three languages: Akawaio (Cariban, Venezuelan), Beja (Afro-Asiatic, Cushitic), and Maa (Nilotic, Eastern Nilotic). Two of these languages do not belong to our language sample (Akawaio and Maa); contrariwise, Beja is one of the languages already

examined. The choice of these languages is not accidental. In fact, South America and Eastern Africa are areas in which usually we can find languages that show complex pluractional constructions. In addition, we had the opportunity to dispose of extensive texts for these languages, and, then, we could work on direct data, and not through secondary data and analyses.

#### 4.1 Pluractionals in Akawaio (Cariban, Venezuelan)

Akawaio is a variety of the Cariban language Kapóng spoken by the Guyanese Amerindian tribe of Akawaio that counts about 6,000 people in Upper Mazaruni District in Region 7 (Cuyuni-Mazaruni) in Guyana (North-East of South America, between Suriname and Venezuela) (Caesar-Fox 2003:50).

From a genetic point of view, Akawaio belongs to the Pemón group of the Cariban family, which is generally considered part of the Venezuelan branch (cf. Gildea 2012). The genetic classification of Cariban languages is highly debated and in a certain way an exact classification does not exist mainly because the lack of structured documentation, and also of diachronic data (Gildea 1998, Chapter. 1).

Akawaio, as many other Cariban languages, is agglutinative, that is, usually the verbs have from two to seven affixes and nouns from zero to three (“mildly polysynthetic”, cf. Gildea & Caesar-Fox 2006:3). However, Akawaio shows also some “analytical constructions that seem to be replacing older morphological operations” (Gildea & Caesar-Fox 2006:3).

In this language, it is important the distinction between roots and words.

“For roots, clear open classes are nouns and verbs, with moderate-sized (probably-closed) classes of adverbs, postpositions, sound-symbolic words, and particles; for words, extremely productive category-changing derivational morphology shifts roots from one category to another, effectively making adverbs an open class and roots with adjectival meanings are split between abstract nouns (size, weight, texture) and adverbs (color, etc.).”

(Gildea & Caesar-Fox 2006:3)

For what concerns verbs, they can be both transitive or intransitive. Labile, ambitransitive, and trivalent roots-stems are not attested. However, Gildea & Caesar-Fox (2006:3) note that “[v]alence may be adjusted morphologically by means of detransitivizing prefix and transitivizing suffix”.

The texts analyzed for this section was provided to us by Prof. Spike Gildea (University of Oregon) and were collected, transcribed, and glossed by Desrey Caesar-Fox (and Spike Gildea) for her PhD thesis on sociolinguistic and anthropological aspects of Akawaio (spoken in the village of Waramadong, Guyana) speech genres discussed at Rice University (cf. Caesar-Fox 2003, the texts are unpublished).

In the texts, we have found 242 occurrences of pluractionality. Unfortunately, it was not clear to us how to interpret 22 of these occurrences. It is important to say here that the texts which we have analyzed were not collected for the purposes of this work. Consequently, the interpretations and the translations are not always as precise as the functional distinctions of the present work require. For this reason, we decided not to consider these occurrences and to analyze only the other 220.

#### 4.1.1 Strategies of marking and functions of Akawaio pluractionals

In Akawaio, the derivational suffix *-pödi*, glossed as Iterative or Habitual in Caesar-Fox (2003), marks pluractional functions. This is a quite productive morphological device. It is widely used and can serve also as a base for further derivations (like nominalizations starting from pluractional verb). This is a strong evidence of its vitality.

There are at least six allomorphs of this marker, half based on variation in voicing of the initial stop and four based on reduction of the final syllable to a glottal stop (when followed by another morpheme) or velar stop (word finally): *-pödi/-bödi* and the contracted forms *-pö’/-bö’*, *-pök/-böök*. It is also

noteworthy that sometimes this marker can be iterated (though in the texts that we have analyzed, it happens only twice).

This morpheme covers a wide, but precise range of functions. All of them are part of the functional domain of pluractional constructions, both core and additional functions too.

In the analysis, we classified the occurrences in different sets of functions rather than in single functions. This mainly because often the same sentence can have different readings depending on the context or, for instance, on the actional value of the verb. Consequently, it can be more useful to list all the possible readings that a form can have. For these reasons, several occurrences are classified in more than one function, mainly a double reading but sometimes also a triple or a quadruple one, though rarely.

The main functional sets of Akawaio are: (i) frequentative/habitual/generic imperfective readings; (ii) iterative (event-internal plurality, iterative, frequentative) reading; (iii) participant plurality reading; and, finally, (iv) a set of functions connected with continuativity.

In what follows, we will briefly present each of these sets providing also some examples.

*Frequentative/habitual/generic imperfective set.* This is the most recurrent set of functions, that is, the functions included in this set are the ones that the pluractional marker of Akawaio encodes more often.

We have found occurrences with a frequentative/habitual reading (cf. (1)), a frequentative reading (cf. (2)), a generic imperfective reading (cf. (4)), and finally some occurrences that can be interpreted with a frequentative/habitual/generic imperfective reading (cf. (5)).

(1) Frequentativity/habituality

*'mörau tok eji mörö' tabödi'pī iya, turonggong*  
*mör-yau tok eji mörö ta-pödi-'pī i-ya turonnö-gong*  
that-LOC 3PL be FUT say-ITER-PST 3-ERG another-PL  
*anö'pī iya ganang.*  
*anö-'pī i-ya ganang*  
eat.meat-PST 3-ERG already

‘Then he would always say “they are all there”, but he had eaten the others already’<sup>23</sup> (RA Piyai'ma Story 017 <45.856>)

(2) Frequentativity

*möröbang yau tok eji iwang be wenai döbödi*  
*möröbang yau tok eji iwang pe wenai tö-bödi*  
thereafter LOC 3PL be hunger like because go-ITER

‘So, because they are hungry, I keep going to Venezuela several times’ (RA Personal Narrative 168 <593.426>)

(4) Generic imperfectivity

*ka'pong be na'kö ye'pödi'pī, ka'pong be*  
*ka'pong pe na'kö y-eji-bödi-'pī ka'pong pe*  
person like maybe 3-be-HAB-PST person like  
*sak ji ye'pödi'pī*  
*sa'ne ji y-eji-bödi-'pī*  
EM EM 3-be-HAB-PST

‘Maybe he was a person, he was a person’ (TL Makanaimo 013 <45.915>)

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<sup>23</sup> This tale is about the so-called ‘idodo-killers’, i.e., Amerindian killers.

(5) Frequentativity/habituality/generic imperfectivity

<i>ö'rö</i>	<i>gaza</i>	<i>rögeng</i>	<i>tok</i>	<i>ne'pö'tai,</i>	<i>ka'pong</i>
<i>ö'rö</i>	<i>kaza</i>	<i>rögeng</i>	<i>tok</i>	<i>n-eji-bödi-dai</i>	<i>ka'pong</i>
what	like	only	3PL	3S-be-HAB-PST	person
<i>be</i>	<i>rö</i>	<i>na'kö</i>	<i>tok</i>	<i>e'pödi'pi</i>	<i>mö</i>
<i>pe</i>	<i>rö</i>	<i>na'kö</i>	<i>tok</i>	<i>aji-bödi-'pi</i>	<i>mö</i>
like	EM	maybe	3PL	be-HAB-PST	UNCRTN

'I do not know how they use to be, maybe they use to be humans' (TL Turtle Story 007 <b 39.236>)

These examples show that in real contexts, the functional differences can be very small even though theoretically the distinctions seem to be clear.

In the cases of these examples, but also more generally speaking, what plays a crucial role in the process of classification of the occurrences is the current context of use, but also the actional type of the verb. For instance, a stative verb can have more likely a habitual or a generic imperfective reading than, for instance, a punctual verb.

*Iterative set.* The functions of this set that can be found in Akawaio texts are:

(i) iterative/frequentative (cf. (6)), (ii) iterative (cf. (7)), event-internal plurality/iterative (cf. (8)) readings.

(6) Iterativity/frequentativity

<i>naigaza</i>	<i>kuru?</i>	<i>pöröu</i>	<i>enno'pödi</i>	<i>zerö</i>	<i>ta'pi</i>	<i>iya</i>
<i>naigaza</i>	<i>kuru</i>	<i>pöröu</i>	<i>ennogi-bödi</i>	<i>zerö</i>	<i>ta-'pi</i>	<i>i-ya</i>
how	EM	arrow	shoot-ITER	this	say-PST	3-ERG
<i>ji</i>	<i>mörö.</i>					
<i>ji</i>	<i>mörö</i>					
EM	A.I.?					

“‘How, really, will we shoot the arrow more than one time?’ he said.’ (RA Piyai'ma Story 033 <106.543>)

(7) Iterativity

<i>im...</i>	<i>mörö</i>	<i>wenai</i>	<i>ku</i>	<i>udöbödi</i>	<i>mörö</i>
<i>im</i>	<i>mörö</i>	<i>wenai</i>	<i>kuru</i>	<i>u-tö-bödi</i>	<i>mörö</i>
um	that	because	EM	1-go-ITER	A.I.?

‘That is really why I keep going up and down’ (RA Personal Narrative 156 <546.078>)

(8) Event-internal plurality/iterativity

<i>e'tane,</i>	<i>mörö</i>	<i>boro</i>	<i>enda</i>	<i>tazai'ya,</i>	<i>idurumbödi</i>
<i>e'tane</i>	<i>mörö</i>	<i>poro</i>	<i>enda</i>	<i>ta-zak-i-ya</i>	<i>i-turumä-bödi</i>
but	that	via	go.IMPS	say-PFV-3-ERG	3-whistle-ITER
<i>bök</i>	<i>enari'ke'pe</i>	<i>eeji</i>	<i>a'tai,</i>	<i>eenna'pozak</i>	<i>a'tai</i>
<i>pök</i>	<i>enari'ke-be</i>	<i>a-eji</i>	<i>a'tai</i>	<i>a-enna'po-zak</i>	<i>a'tai</i>
from	frightened-ATTR	2-be	if	2-return-PFV	if

‘but if you do not obey what it said about going a particular way for the hunt, and if you are afraid of its whistling and you decide to return home;’ (EW Kanaimö 029)

It is important to remind a fact: cross-linguistically, event-internal plurality tends to be the function that more often is determined by the sum of the functional value of the pluractional marker and the actional value (*Aktionsart*) of the verb stem. Thus, this function tends to be the trickiest to recognize and to explain because it is not determined by the mere presence of a pluractional marker. For example, in (8) the verb ‘to whistle’ is in some way inherently plural, and using the words of Cusic (1981), it is a *repetitive* verb. Then, it is possible that in Akawaio this actional value sometimes must be explicitly marked through the Iterative morpheme.

*Participant plurality set.* This is the last set that presents a remarkable number of occurrences. In Akawaio texts, we have found at least two different functions connected with the vertical parameter of distribution (cf. Chapter 2): (i) participant plurality (cf. (9)), and then (ii) participant plurality/iterativity (cf. (10)).

(9) Participant plurality

<i>möra'tai</i>	<i>ji</i>	<i>kajiri</i>	<i>engji</i>	<i>tok</i>	<i>a</i>	<i>a'tai</i>
<i>möra'tai</i>	<i>ji</i>	<i>kajiri</i>	<i>engji</i>	<i>tok</i>	<i>ya</i>	<i>a'tai</i>
at.that.time	EM	manioc.beer	drink	3PL	ERG	when
<i>mörö</i>	<i>ji</i>	<i>tok</i>	<i>ma'tabödi'pī</i>			<i>ha..aing!</i>
<i>mörö</i>	<i>ji</i>	<i>tok</i>	<i>ma'ta-bödi-'pī</i>			<i>haing</i>
A.I.?	EM	3PL	die-ITER-PST			drama

‘At that time when they drank the kasiri, they died one by one haing!’ (RA Piyai'ma Story 096 <312.802>)

(10) Participant plurality/iterativity

<i>auye'sak</i>	<i>a'tai</i>	<i>tagi'pö'sek</i>		<i>murang</i>	<i>bona</i>
<i>a-yebi-zak</i>	<i>a'tai</i>	<i>t-agidi-bödi-ze-k</i>		<i>murang</i>	<i>pona</i>
2-come-PFV	when	ADV-cut-ITER-PRTCPL-STYLE	charm		onto
<i>inonggaauya,</i>		<i>nigadaine</i>	<i>tok</i>	<i>ko</i>	
<i>i-nongga-au-ya</i>		<i>n-ka-dai-ne</i>	<i>tok</i>	<i>ko</i>	
3-leave-2-ERG		3S-say-PST-EM	3PL	EM	

‘When you have returned (from the hunt), you have to cut (the game) into pieces then place it on the charm.’ (EW Kanaimö 044)

*Continuative set.* Even though this set does not present a number of occurrences that can be considered significant, it is interesting to report some examples in order to give a comprehensive account of the pluractional marker of this language.

We found two functions: (i) continuativity/iterativity (cf. (11)), (ii) event-internal plurality/continuativity/iterativity (cf. (12)).

(11) Continuativity/iterativity

*yöi naka'pö bo yenggurungböding...*  
*yöi naga'pi po y-enggurumi-bödi-ng*  
 tree stump on 3-wait-HAB-STYLE

‘He would just rest there on top of a piece of tree stump’ (PS Duck Story 027 <116.598>)

(12) Event-internal plurality/continuativity/iterativity

*ö'rö be yeji yaburöbödi*  
*ö'rö pe y-eji y-aburö-bödi*  
 what like 3-be 3-praise-ITER

‘Why is she being praised?’ (CB. Personal Narrative 071 <227.002>)

#### 4.1.2 The semantic map of pluractionals in Akawaio

From the examples presented in the previous section, it comes out that the situation of Akawaio seems to be relatively clear. Certainly, this clarity is mainly due to existence of only one marker (*-pödi*). This is a quite rare in the languages of the world. Often, we find more than one marker to cover pluractional functions. In any case, this is useful to better understand the position of pluractional constructions within the Akawaio grammar. In addition, it helps to better understand the bigger picture and to test some facts of the cross-linguistic analysis. Thus, observing the number of the occurrences found in the texts analyzed, it is possible to propose at least two different semantic maps for this language. The first semantic map shows all the possible readings that the pluractional marker can encode in Akawaio.

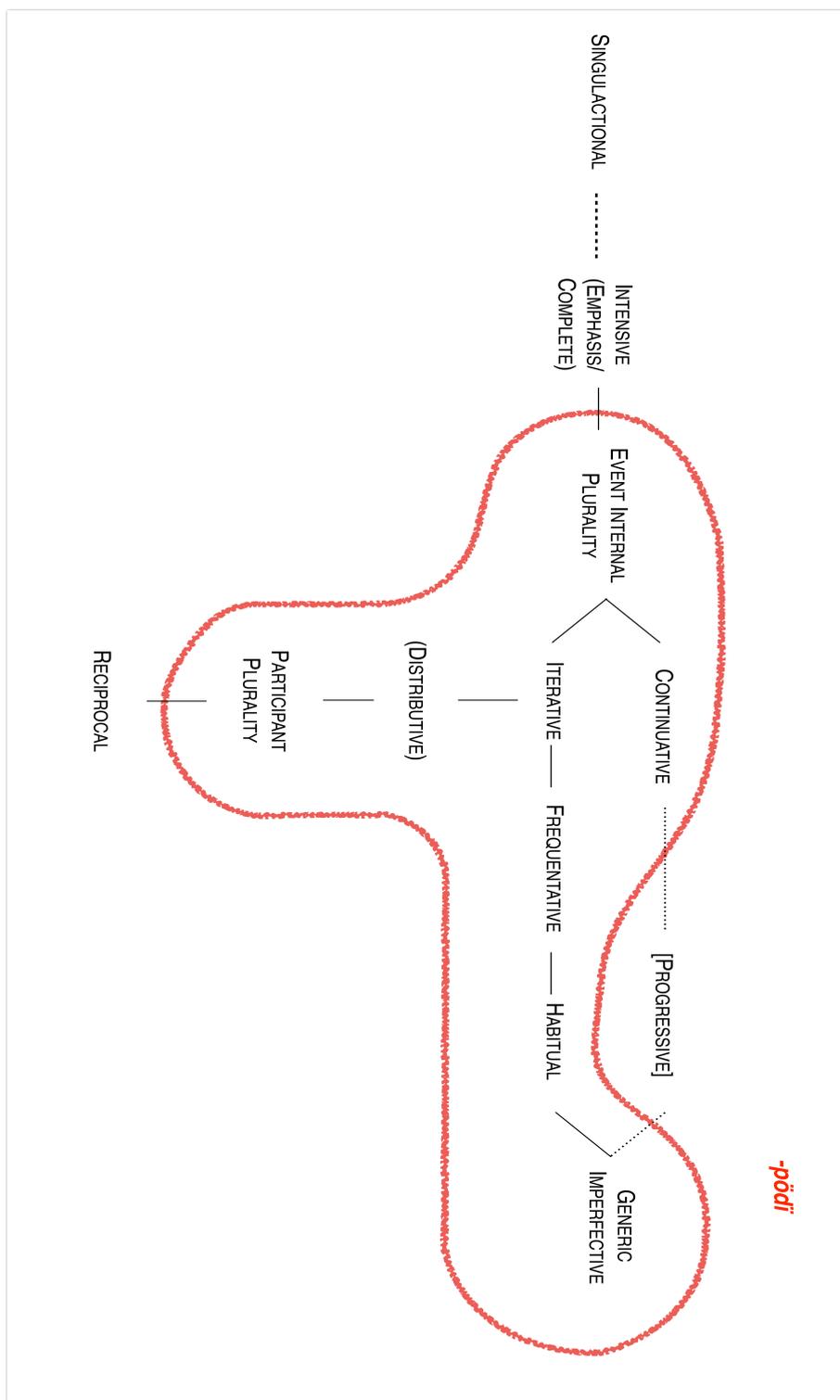


Figure 4.1 – Semantic map of pluractional marker *-pōdi* in Akawaio (Extended version).

The semantic map in Figure 4.1 clearly shows that in Akawaio the pluractional marker *-pödi* covers a wide area: both, the area of the pluractional core functions (iterative, frequentative, distributive and participant plurality) and also some part of the additional functions area. In fact, the Akawaio pluractional domain can go further the center of the map on both sides: on the left, it can encode event internal plurality, while on the right it can cover habituality and generic imperfectivity. In few cases, it can also encode continuativity.

The picture drastically changes if we take into consideration the number of occurrences of the sets presented above. In fact, not all the sets have the same number of occurrences within the texts analyzed, and frequency is a crucial element in corpora analysis.

When we give the right weight to frequency, the situation becomes more definite and explicit. The number of occurrences for each set is shown in Table 4.1.

<b>Set(s)</b>	<b>Function(s)</b>	<b>Occurrence(s)</b>
Frequentativity/habituality/generic imperfectivity	<i>frequentative/habitual</i>	101 (45,9 %)
	<i>frequentative</i>	18 (8,2 %)
	<i>generic imperfective</i>	12 (5,5 %)
	<i>frequentative/habitual/generic imperfective</i>	15 (6,8 %)
	<b>Total occurrences</b>	<b>146 (66,4 %)</b>
Iterativity	<i>iterative/frequentative</i>	30 (13,6 %)
	<i>iterative</i>	13 (5,9 %)
	<i>event-internal plurality/iterative</i>	10 (4,6 %)
	<b>Total occurrences</b>	<b>53 (24,1 %)</b>
Participant plurality	<i>Participant plurality</i>	8 (3,6 %)
	<i>Participant plurality/iterative</i>	2 (0,9 %)
	<b>Total occurrences</b>	<b>10 (4,5 %)</b>

Continuativity	<i>continuative/iterative</i>	4 (1,8 %)
	<i>event-internal</i>	2 (0,9 %)
	<i>plurality/continuative/iterative</i>	
	<b>Total occurrences</b>	<b>6 (2,7 %)</b>
	<b>Other minimal functions</b>	<b>5 (2,3 %)</b>
	<b>Total occurrences</b>	<b>220 (100 %)</b>

Table 4.1 – Number of occurrences of the functions encoded by *-pödi* in Akawaio.

The situation showed by the table is considerably different from the one that the first semantic map reveals. It is undeniable that there is a relevant ‘imbalance’ amongst the number of occurrences of the different sets.

If we consider only the functional sets with a significant number of occurrences, for instance, more than 25 (about 10 % of the total number of the occurrences), only the first two sets exhibit a specific importance.

It is possible to draw a new semantic map that makes evident the relative weight of the sets. A map that highlights the actual (in the sense of the most recurrent functions) importance within the functional domain of pluractional constructions in Akawaio. We have decided to signal this most relevant part through a red figure.

The semantic map is the following one:

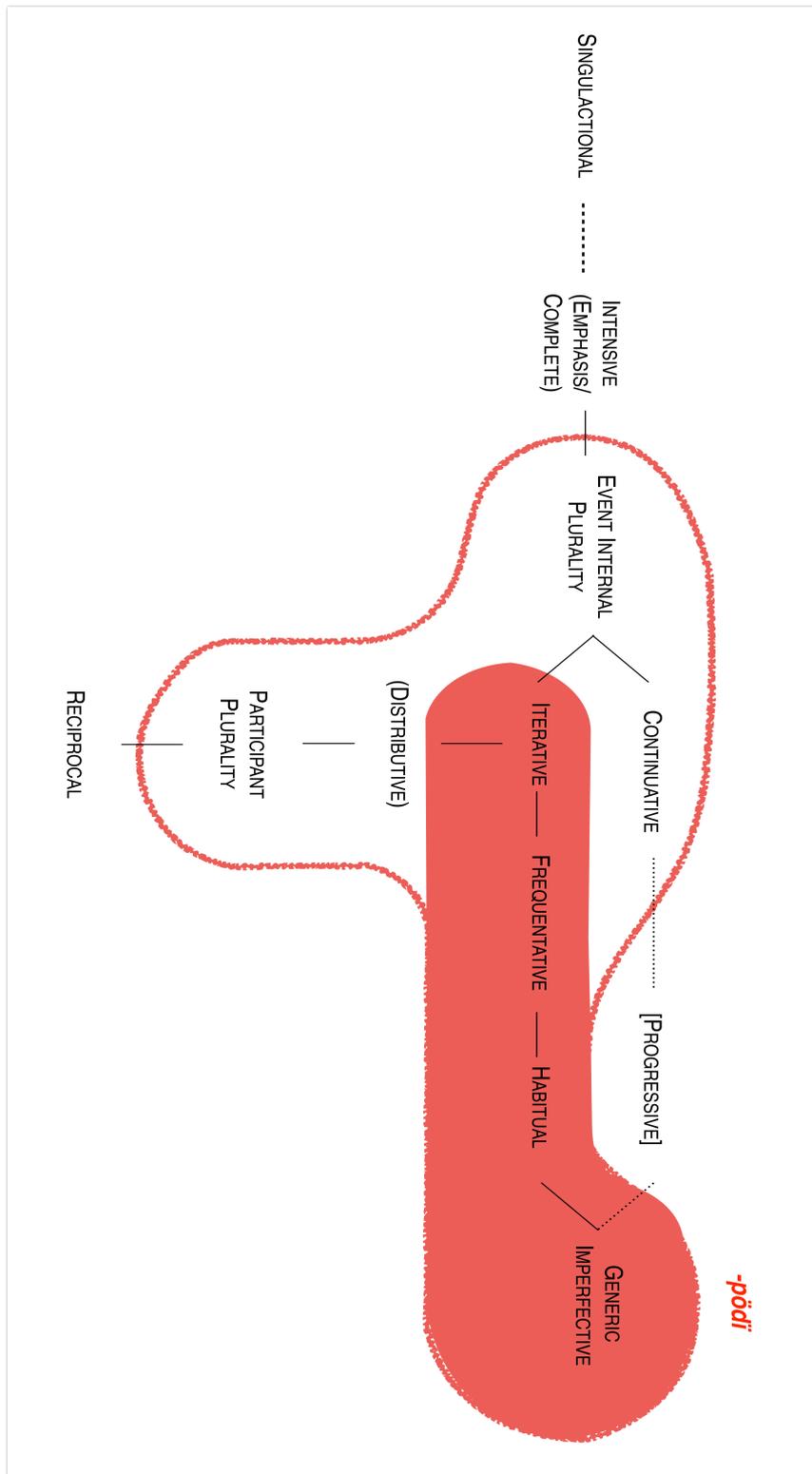


Figure 4.2 – Semantic map of pluractional marker *-pödi* in Akawaio (Restricted version).

The differences that exist between the two semantic maps reveal us something extremely interesting. In fact, it seems that in Akawaio the pluractional marker *-pōdī* is in an ongoing process of grammaticalization. There exist at least three proofs that confirm this statement.

Firstly, in Akawaio the number of occurrences of functions that cross-linguistically tend to be more grammaticalized is particularly high. In fact, as was previously noted in Chapter 2, the Conceptual Space of pluractional constructions shows some interesting linguistic correlations. One of them deals with the fact that cross-linguistically the functions posited in the right part of the space tend to be encoded through more grammaticalized devices, such as grammatical aspect, rather than less grammaticalized devices, such as *Aktionsart*. On this point, the semantic maps of Akawaio are extremely explicative: even though there are occurrences of “less grammaticalized” functions (e.g., event internal plurality), the most frequent are exactly the ones in the right part. This acquires more relevance within the group of most recurrent functions: where frequentativity and habituality (more grammaticalized than iterativity) are largely the most frequent.

The second evidence is provided by the *Aktionsart* of the verb stems. As was already pointed out, the formation of the occurrences of event internal plurality follows a common process: a verb stem with a specific actional value to which is added the derivational suffix *-pōdī*. Thus, in this case the outcome is composed in a slightly different way than the other functions: event-internal plurality are formed through the sum of the *Aktionsart* of the verb stem and the functional value of the pluractional marker. This means that we will have, for instance, a continuative or an event-internal plural reading only if the verb stem will have some specific lexical characteristics. On the other hand, the formation of the functions in the right part of the space (e.g., frequentativity, habituality, etc.) are mainly constructed by the bare presence of *-pōdī* independently from the *Aktionsart* value of the stem. A habitual occurrence

will be always habitual basically with all types of verbs, a continuative will be continuative only with certain types of verbs.

Finally, the third evidence deals with the presence of other derivational markers that covers the same functional area of the less frequent pluractional functions. In Akawaio, there exist at least two other morphemes that mark respectively progressivity and participant plurality (of the absolutive argument): they are *-bök* ‘progressive’<sup>24</sup> and *-gong* ‘collective’ (cf. section 3).

(14) Progressive

<i>kajiri</i>	<i>engjibök</i>	<i>tok</i>	<i>ejiping-ng</i>
<i>kajiri</i>	<i>engji-bök</i>	<i>tok</i>	<i>ejiping-ng</i>
manioc.beer	drink-PROG	3PL	be-PST-STYLE-STYLE

‘They were drinking kajiri’ (EW Kanaimö 134)

(15) Collective (or Plural Absolutive)

<i>auma'tagong</i>	<i>tawong</i>	<i>eda'pi</i>	<i>tok</i>	<i>a</i>
<i>a-ma'ta-gong</i>	<i>tawong</i>	<i>eda'pi</i>	<i>tok</i>	<i>ya</i>
2-die-PL	saying	hear-PST	3PL	ERG

‘‘You will all die!’’ they heard.’ (RA Piyai'ma Story 083 <272.332>)

The presence in the grammar of Akawaio of these two markers increases the awareness that the continuative(/progressive) and participant plural occurrences of the marker *-pödi* are indeed only marginal facts. In particular, in the majority of cases, a pluractional marker tends to be accompanied by a plurality of participants (cf. Chapter 3). This happens because when a

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<sup>24</sup> This morpheme has a phonetic identity with one of the allomorphs of *-pödi*. This is probably due to chance because the two markers have a different distribution and, sometimes, the progressive marker can also co-occur with *-pödi*.

situation is repeated, it is highly probable that also the participants are plural, and vice versa.

#### 4.1.3 The case of the collective *-gong* in Akawaio

In the previous section, the presence of a ‘collective’ marker *-gong* in Akawaio was pointed out. A possible issue concerns the possibility that this morpheme can be analyzed as a pluractional marker with the function of encoding a plurality of participant involved in the situation.

Indeed, if we look at the examples in the texts, it will be evident that *-gong* can be used in contexts in which usually a pluractional marker is used. In other words, it is possible to find this morpheme in prototypical pluractional situation in which a plural action is performed by or on plural participants (cf. (16) and also (15)).

(16) Collective (or Plural Absolutive)

<i>Klef,</i>	<i>ah...</i>	<i>Sora</i>	<i>kuru,</i>	<i>Sora,</i>	<i>Klef,</i>	<i>mia'ta'pī</i>	<i>mang</i>
<i>Klef</i>	<i>ah</i>	<i>Sora</i>	<i>kuru</i>	<i>Sora</i>	<i>Klef</i>	<i>i-ma'ta-'pī</i>	<i>mang</i>
Cliff	ah	Zorah	emph	Zorah	Cliff	3-die-PST	3.BE.PRS
<i>tigingnō</i>	<i>ane</i>			<i>mia'taza'kong</i>		<i>beng</i>	
<i>tiginnō</i>	<i>ane</i>			<i>i-ma'ta-zak-gong</i>		<i>beng</i>	
one	wait.IMP			3-die-PFV-PL.ABS		NEG	

‘Cliff, it is really Zorah first so it is Zorah, Cliff, one of them is dead, let's deal with those that are not dead’ (RA Personal Narrative 147 <497.969>)

In this example, it is particularly evident that, when the situations and the participants are plural, the marker *-gong* is present (cf. the second ‘die’), when the actions and the participants are both singular the morpheme is not present (cf. the first ‘die’).

However, the morpheme *-gong* is described as a nominal number marker (Caesar-Fox 2003:86), even though not in a traditional way:

“[P]lurality in Akawaio in the traditional sense was not based on whether or not there was more than one of an item within a category. Rather, *items were assessed collectively as mass nouns or as generic and particular forms*, resulting in the absence of nouns which marked as singular and plural in the Akawaio grammar. In more recent times and because of contact with particularly western cultures, new plural forms have evolved that mimic English language structures. Presently, Akawaio has at least six plural forms: *yamök/amök, -tong/-dong, -sang, -rang, nang, and gong/kong.*” [italics is mine]

(Caesar-Fox 2003:86)

In other words, in a precedent diachronic stage of the language, all these markers were not real nominal number markers<sup>25</sup>. This is suggested by the fact that some of them (for example, *-gong*) can also be attached to the verbs<sup>26</sup>.

Nonetheless, in the majority of the cases *-gong* attaches to nouns rather than verbs. In the texts that we have analyzed, on 108 occurrences of this morpheme, only 20 are attached to a verb. The remained are applied to nouns. This unbalanced distribution is probably a consequence of the process of becoming a *traditional nominal number marker* that Caesar-Fox (2003)

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<sup>25</sup> For instance, *\*=komo* ‘collective possessor’ > *-gong/-kong*, *\*=tomo* ‘collective N’ > *-tong/-dong* (Gildea p.c.).

<sup>26</sup> This is mainly due to the reanalysis of nominalizations as main clause verbs (cf. Gildea 2012:465-469, or Gildea 1998: Ch. 6-7).

described in her work and that is mainly caused by the contact with western languages (e.g., Spanish and English).

From a synchronic point of view, the fact that *-gong* is more often used with nouns than with verbs is a first strong evidence of the non-pluractional nature of this marker.

Unfortunately, we could not find in the texts situations in which *-gong* is clearly used with plural participants, but not with plural situations<sup>27</sup>. This is a further proof of the strict relationship between plurality of situations and plurality of participants. In addition, it makes us aware of the careful attention that must be used in recognizing participant plurality: a situation in which co-exist both plural participants and plural situations is not necessarily a participant plurality construction.

However, we have found an occurrence of *-gong* (though it is not completely clear) in which this marker seems to be used with plural participants, but without a clear plurality of situations. Though we are not sure, it can be interesting to show this example:

(17) Collective (or Plural Absolutive)

<i>e'tane</i>	<i>serö</i>	<i>ji</i>	<i>ado'kanigigongbö</i>	<i>e'aik</i>	<i>wagibe</i>
<i>e'tane</i>	<i>zerö</i>	<i>ji</i>	<i>a-do'kanigigong-bö</i>	<i>ejiaik</i>	<i>wagi be</i>
but	this	EM	2-understand-PL.ABS-PROG	be-PRS	good like
<i>bra</i>	<i>rö</i>	<i>serö</i>	<i>chido'kani'aik</i>		
<i>bra</i>	<i>rö</i>	<i>zero</i>	<i>si-do'kanigigong -aik</i>		
NEG	EM	this	1A-understand-PRS		

'But, now, I am beginning to understand it and what I am understanding is not good' (R Personal Narrative 026 <121.226>)

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<sup>27</sup> This should be the strongest evidence against the interpretation of *-gong* as a pluractional marker.

The verb *ado'kanigigongbö*k seems to express a single instance of ‘understanding’, i.e., the singular subject is understanding a single situation. However, this situation is externally singular (‘...to understand it...’), but internally plural. In this story, the speaker is explaining a composite situation in which several elements seem to be good, but that at the end they reveal themselves the opposite. Thus, the speaker begins to understand that this composite situation is not as good as it seems. The marker *-gong* is applied to a situation in which there are several elements that are understood, but the situation is represented as being catch as a whole by the subject, that is, singularly.

In this sense, we cannot say that *-gong* is an actual pluractional marker. However, we must note that in the majority of the cases it appears in situations that are prototypically pluractional.

#### 4.1.4 Beyond Akawaio: pluractionality in other Cariban languages

In this section, the situation of Akawaio will be compared with the one of other Cariban languages in order to investigate some possible correlations and to try to catch the general perspective of pluractional constructions in this family. In particular, we will focus on the Cariban languages of our sample, and also an additional one, that is, Arara (Cariban, Pekodian).

Our sample includes four Cariban languages: Galibi Carib (Cariban, Guianan), Hixkaryana (Cariban, Parukotoan), Panare (Cariban, Venezuelan), and Macushi (Cariban, Venezuelan). Of these languages, only Hixkaryana does not have a specific pluractional marker (cf. Derbyshire 1979). All the other languages cited above exhibit a morpheme that encodes pluractional functions.

In Galibi Carib, the suffix *-poty* encodes mainly iterativity, frequentativity, and habituality (Courtz 2008:82). An example of this morpheme (with its allomorph *-pò*) is given in the following examples:

(17) Galibi Carib (Cariban, Guianan)

<i>ywytory</i>	<i>ta</i>	<i>yjàmun</i>	<i>kynetykapòsan</i>	<i>no</i>
<i>y-(w)yto-ry</i>	<i>ta</i>	<i>y-jàmun</i>	<i>ky-ni-ase-tyka-poty-jan</i>	
1-go-POSSC	in	1-body	ALLEG-AEO-R-shock-ITER-PRSU	
<i>no</i>	<i>wara.</i>			
<i>-no</i>	<i>wara</i>			
<i>-ADN</i>	like			

‘As I went, my body seemed to shiver continually, as it were.’ (Courtz 2008:181)

(18) Galibi Carib (Cariban, Guianan)

<i>wytopòsa</i>	<i>te</i>	<i>pàporo</i>	<i>morokon</i>	<i>pakira</i>
<i>w-(w)yto-poty-ja</i>	<i>te</i>	<i>pàporo</i>	<i>moro-kon</i>	<i>pakira</i>
1M-go-ITER-PRS	but	all	that-PL	collared_peccary
<i>wekupitòkon</i>	<i>wararo.</i>			
<i>ase-kupi-tòkon</i>	<i>wararo</i>			
R-bathe-NIPL	at_every_instance_of			

‘But I went to all the places where peccaries bathe.’ (Courtz 2008:188)

Also in Macushi there exists a suffix *-pîî* that covers basically the same domain of functions of Akawaio, and specifically it often gives an iterative, a frequentative, or a habitual reading to the verb (Abbott 1991:118).

(18) Macushi (Cariban, Venezuelan)

*paapa-ya yei ya'tî-pîti*

father-ERG tree cut-ITER

‘Father cuts the tree (repeatedly)’

(Abbott 1991:118)

(19) Macushi (Cariban, Venezuelan)

*mîikîrî i-n-koneka-'pî yapurî-pîti-'pî to'-ya*

3:PRO 3-OBJ:NMLZ-make-PST praise-ITER-PST 3:PRO:PL-ERG

‘They used to worship that which he made’

(Abbott 1991:118)

Slightly different is the situation of Panare in which the suffix *-pëti* covers a wider domain of pluractional functions. In particular, this morpheme can encode an iterative, a frequentative, a participant plurality, or an event-internal plurality reading.

(20) Panare (Cariban, Venezuelan)

*Pata-n y-ákama-pëti-mpëj mën ano.*

foot-POSS TR-DI.worsen-ITER-IPFV.T IN.INVIS dirt

‘The dirt keeps making my foot worse’ (JP)

(Payne & Payne 2013:185)

(21) Panare (Cariban, Venezuelan)

*Kën tëpa-pëti yu.*

*kën t-pa-pëti-i yu.*

AN.INVIS 1SG.A-feed-ITER-PPERF2 1SG

‘I used to feed him/her’

(Payne & Payne 2013:185)

(22) Panare (Cariban, Vanezuelan)

*Y-u-të-pëti-n*                      *tikon* *y-u-wëpë-n*  
3-INTR-go-ITER-NONSPEC.I    child    3-INTR-come-NONSPEC.I  
*koeñan.*

tomorrow+1

‘The children are gonna leave and come back the day after tomorrow’

(Payne & Payne 2013:185)

Finally, in Arara the morpheme *-tke* covers the following pluractional functions: participant plurality, iterativity, frequentativity, habituality.

(23) Arara (Cariban, Pekodian)

*ugon*    ‘*carro*’ *erengmy-tke-nangry*  
man    car    hit-ITER-IPFV

‘The man is hitting the car several times’

(Carol Alves p.c.)

(24) Arara (Cariban, Pekodian)

*jei*    *amtem* *poda=p*            *kun-wo-tke*                      *aturãu*  
wood house inside=ATBZ    3.RM.PST-kill-ITER            cattle  
*Karaja-mkeni*

Karaja-deceased

‘The late Karaja killed many cattle in the wood house’

(Carol Alves p.c.)

(25) Arara (Cariban, Pekodian)

*y-bage-dup*                      *kafe*    *j-okpe-tke-nangry*  
1S<sub>0</sub>-wake\_up-SUB            coffee    1A-make-ITER-IPFV

‘When I wake up, I make coffee’

(Carol Alves p.c.)

(26) Arara (Cariban, Pekodian)

*opty-me-tke-ni*

medicine-VBZ-ITER-NOM

‘Shaman’ (the person who habitually gives medicine)

(Carol Alves p.c.)

Thus, it is evident that in the Cariban languages considered, the situation is incredibly similar to the one of Akawaio. In any case, at least three different considerations can be singled out.

In three of the five Cariban languages mentioned in this section, pluractionality is marked through a morpheme that seems to have the same diachronic origin of the Akawaio marker *-pödi*: *-poty* in Galibi Carib, in Macushi is *-pîti*, and in Panare the morpheme is *-pëti*. In addition, also the functions that these markers cover are almost the same of Akawaio. This highlights that, at least in the domain of event plurality, these languages have a strict relationship.

On the other hand, in Arara we find a pluractional marker that shows a completely different form, though from a functional point of view it covers practically the same functions of *-pödi* in Akawaio and the other Cariban pluractional morphemes, in particular the Panare morpheme *-pëti*.

In conclusion, we can say that pluractionality is a widespread phenomenon in several Cariban languages. We can find it in almost all the branches that compose this family: Guianan (Galibi Carib, but also in Tiriyo cf. Meira 1999 and Ye’kwana cf. Cáceres 2011); Pekodian (Arara, but also in Ikpéng cf. Pachêco 2001); and Venezuelan (Akawaio, Macushi, Panare, Yawarana – Cáceres & Gildea p.c. –, Tamanaku – Meira & Gildea p.c.).

Conversely, there is also a branch in which this type of constructions seems to be absent: specifically, in Parukotoan languages (for example in Hixkaryana cf. Derbyshire 1979 and in Waiwai cf. Hawkins 1998).

This issue can find a possible explanation in the fact that the Parukotoan branch seems to be the first branch that was separated by the rest of the Cariban languages (cf. Meira, Hoff & Gildea 2010 and Gildea 2012). Consequently, even though geographically this branch is placed almost in the middle of Cariban area, Parukotoan languages do not have a specific morphological device that encode such situations.

Some other considerations can be as well drawn. If we verify which Cariban languages have a pluractional marker and which have not, we will have the following situation (following the classification proposed by Gildea 2012:445):

(27) Pluractional constructions in Cariban (Spike Gildea p.c.)

**Parukotoan (A):** No pluractional

**Pekodian (B-C):** Unknown for B; non-cognate form for C

**Venezuelan (D-H):** Robustly attested in all described languages

D: Akawaio & Makushi

E: Panare

F: (extinct)

G: Yawarana, Mapoyo (attested, Spike Gildea p.c.)

H: Tamanaku (attested, Spike Gildea p.c.)

**Nahukwa (I):** No pluractional

**Guianan (J-M):** Yes and No

J (Kari'nja) and K (Ye'kwana) have reflex of *\*-pētī*

L (Tiriyó) and M (Wayana) have reduplication

L (Karihona and Akuriyó) No pluractional attested, very limited descriptions

**Residue (N-O-P):** Probably no pluractional

N (Apalaí) No pluractional (Spike Gildea p.c.)

O (Waimiri-Atroari) No pluractional attested (limited descriptions)

P (Yukpa) No pluractional attested (very limited descriptions)

Then, if we display these results on a map, we will have the situation shown in Figure 4.3.

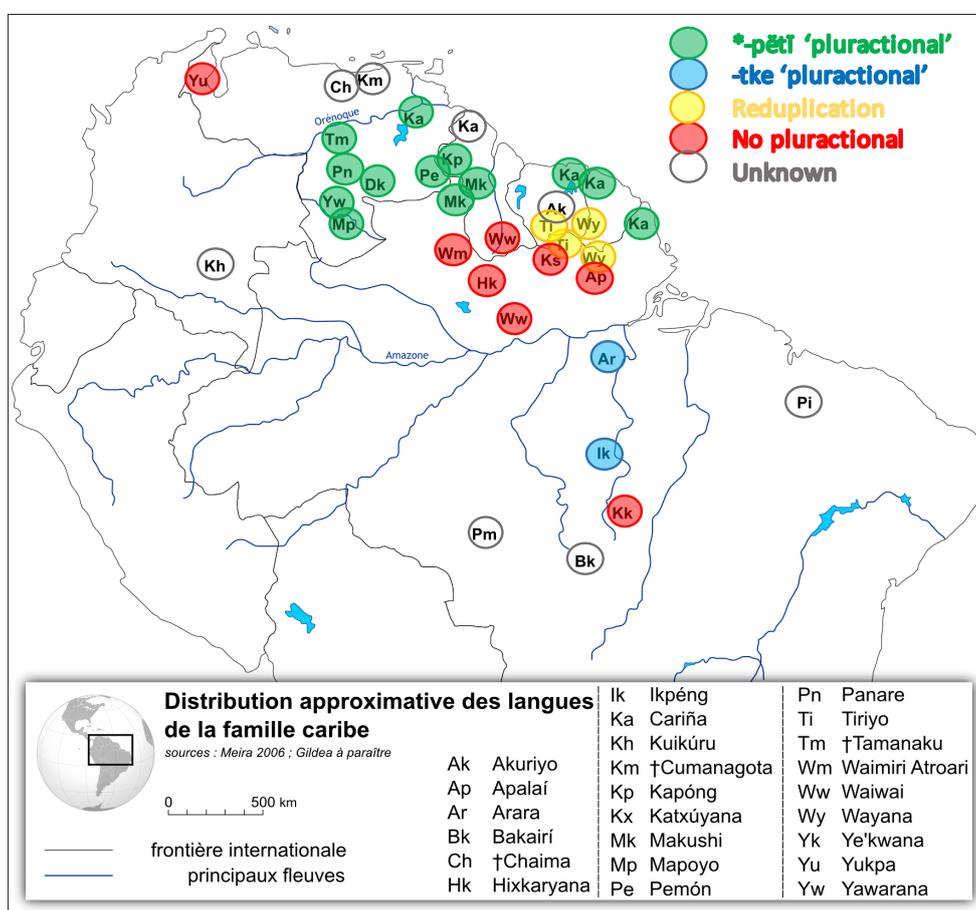


Figure 4.3 – Geographical distribution of Cariban pluractional markers  
(Spike Gildea p.c.)

Thus, it seems that Cariban pluractional markers follow an areal distribution (Spike Gildea p.c.): *\*-pētī* is principally found in Venezuela, in western Guiana Plateau, and in a limited area in the east; *-tke* is present only in two related and adjacent languages; reduplication is found in few adjacent languages; the absence of pluractional markers is in the south of the Guiana Plateau plus two isolated ‘spots’, i.e., Kuikuro in the south and (maybe) Yupka in the north-west. Unfortunately, we do not have diachronic data that

allow us to propose a certain reconstruction. However, the picture shown by (27) and Figure 4.3 suggests three separate innovations that lead to different constructions.

In conclusion, this case study has revealed that in Akawaio and in Cariban languages, pluractionality is a widespread phenomenon and presents specific characteristics. These characteristics let us assume that probably the Cariban pluractional constructions are following a specific path of grammaticalization. Specifically, they are apparently shifting from the functions of the left part (more lexical) of the conceptual space to the ones on the right, i.e., to more generic and aspectual values. Thus, it is possible to presume that in some future stages the Akawaio *-pödi* will become a true aspectual value, with habitual and, then, generic imperfective readings.

If we compare these characteristics with the cross-linguistic peculiarities of pluractional constructions, it is also possible to say that Cariban languages confirm some general issues. Firstly, they seem to provide an evidence for the correlation between the conceptual space and the degree of grammaticalization of the functions (cf. Chapter 2). In addition, they also suggest a possible directionality in the grammaticalization process, from the left to the right of the space. This is exactly what was theorized in Chapter 2 and what we expect from this kind of situations. Finally, what happens in these languages lets us infer that generally pluractional constructions can be the source for some aspectual value and, maybe, also for some aspectual systems.

## 4.2 Pluractionals in Beja (Afro-Asiatic, Cushitic)

Beja (or *beḏawije=t* for native speakers) is a language that belongs to the Afro-Asiatic family, and, specifically, to the Cushitic branch. Within this branch, it is the only component of the Northern group.

Beja is spoken by 1.500.000 of people. About 1.100.000 speakers in the Eastern part of Sudan, and the remained part in the Northern part of Eritrea and the South-Eastern part of Egypt. It is widely accepted that Beja has two main different varieties plus a transition zone: a northern variety called *mi:m'h-i=t be'ḏawije* and a southern variety called *ga:'f-i=t be'ḏawije* (Vanhove 2014:4).

From a linguistic point of view, Beja (as many other Cushitic languages) has a basic word order SOV, with postpositions and a subordinate-main clause order. The morphology of Beja is extremely rich, in particular for what concerns the verbal system (cf. below). In the nominal domain, Beja presents mainly three grammatical cases: nominative, accusative, and genitive (also a vocative). The gender system includes a masculine and a feminine value, while number systems is slightly less complex than in other Cushitic languages (in particular Omo-Tana and Dullay), and presents a singular-plural distinction with a singulative form used to refer to a single entity or quantity of generic nouns (cf. Vanhove 2014).

In Beja there exist two different verb classes: the first class V1 (cf. Vanhove 2014, forth.) is composed of verbs that conjugate through prefixes. The second class V2 (cf. Vanhove 2014, forth.) is composed of verbs that conjugate through suffixes.

In addition, the root of verbs belonging to V1 class may be subject to vowel changing depending on Tense/Aspect/Mood (henceforth TAM), while the root of V2 verbs is immutable.

In Beja, Indicative verbs can be conjugated for temporal-aspectual values (Imperfective, Perfective, and Aorist) and two moods (Imperative and Optative).

In this language, several verbal derivations are available. V1 verbs can be derived in order to create Intensive, Pluractional, Middle, Causative, Double Causative, Passive and Reciprocal forms. On the other hand, V2 verbs can be derived to create Pluractional, Middle, Causative, Double Causative, Reciprocal, and Inchoative.

The texts that we have analyzed for this case study were provided to us by Prof. Martine Vanhove (CNRS-LLACAN) who collected and glossed them. Almost all texts are freely accessible on the website of the CorpAfroAs project (cf. <http://dx.doi.org/10.1075/scl.68.website>), while the ones that are not available so far will be accessible soon at <http://dx.doi.org/10.1075/scl.68.website/>.

These texts were recorded in Sinkat (a village of the transition zone of the southern variety located in the central-eastern part of Sudan). They are thirty-seven and all of them, but one, belong to the narrative genre. It is noteworthy that:

“Beja speakers have a strong awareness of a hierarchy of speech related to rules of honour, politeness, and to taboos. Poetry recited by men and greetings are at the top of this hierarchy, while casual talk and ordinary conversations are at the very bottom.”

(Vanhove 2014:4)

In the texts, we have found 259 occurrences of pluractional markers.

In what follows, we will present the main characteristics of pluractional constructions in Beja (and briefly also of other Cushitic languages) starting from the analysis of the data.

#### 4.2.1 Strategies of marking and functions of Beja pluractionals

As it was pointed out in the previous section, Beja exhibits two different verb classes. Each class shows its own way to mark pluractionality, however from a functional point of view they mainly match each other.

In Beja, there exist two values of pluractionality, i.e., *Intensive* (182 occurrences) and *Pluractional* (77 occurrences). The former applies only to V1, while the latter can apply both to V1 and V2, though with some small morphological differences.

##### 4.2.1.1 Strategies of marking pluractionality in Beja

In Beja, V1 verbs exhibit two marking strategies, one is used to derive Intensive forms and the second Pluractional.

V1 Intensive forms are marked through the ablaut of the verb stem. Vanhove (forth.:67) describes this strategy as follows:

“Tous les préfixes possèdent un *-e:-* long à l’inaccompli qui garde en outre la voyelle caractéristique *-a* de 2SG.M, *-i* de 2SG.F et *-na* aux 2PL & 3PL de la forme de base; la voyelle du thème devient *i*, le *a*: long chute dans les disyllables, tandis qu’un suffixe *-i* est ajouté aux monosyllables: *e:-ktim* ‘je/il arrive’, *e:-jim-i* ‘il pleut’.”

(Vanhove forth.:67)

An example of this strategy is provided in (28). While in (28a), we can see the underived form, in (28b) there is the same verb derived for Intensive:

(28) Beja (Afro-Asiatic, Cushitic)

- a.     *ʔawi=b*                    *jhak-s-an=t*  
stone=INDF.M.ACC    get\_up-CAUS-PFV.1SG=COORD  
*a-gid*  
1SG-throw\PFV  
‘I took a stone and threw it.’  
(BEJ\_MV\_NARR\_05\_eritrea\_389)
- b.     *ge:d-e:ti*                    *ho:so:*  
throw\INT-CVB.CSL            3SG.ABL  
*ti:-simh=je:b=ka*  
3SG.F-get\_rid\_of\AOR=REL.M=DISTR  
‘Each time she throws stones at it to get rid of it.’  
(BEJ\_MV\_NARR\_05\_eritrea\_147)

The second strategy that can be applied to a V1 verb is the reduplication and it is used to derive Pluractional forms.

The reduplication can be partial (in monosyllabic and disyllabic verbs) or full (in disyllabic). These strategies are illustrated in the following examples:

(29) Beja (Afro-Asiatic, Cushitic)

- a.     *na:=t*                    *bi=t-kati:m*                    *mhi:n*  
thing=INDF.F    NEG.OPT=3SG.F-arrive\OPT    place  
‘(The donkey stopped) in a place where nothing can arrive, (in the cliffs)’  
(BEJ\_MV\_NARR\_05\_eritrea\_183)
- b.     *i=mag<sup>w</sup>al*                    *ho:g-a:=b=u=it*  
DEF.M=reservoir            descend-CVB.MNR=INDF.M.ACC=COP.3SG=CSL  
*ki=i-t-kat~tam*  
NEG.IPFV=3.SG.M-MID-arrive~PLAC.PFV  
‘since the reservoir was deep, it cannot be reached.’

(BEJ\_MV\_NARR\_05\_eritrea\_083)

On the other hand, V2 verbs show two ways to encode Pluractional forms. We can find partial or full reduplication for both mono- and disyllabic verbs. In the partial reduplication, there is always the use of the vowel *a* in the reduplicant independently by the vowel of the verb stem.

In monosyllabic verbs, this gives the  $C_1a\sim$  schema (cf. (30b)). In disyllabic verbs, we can find three different schemas: the first, and clearly the more widespread, consists in the insertion of a  $\sim C_2a-$  after the second syllable (cf. (31b)); the other two types are rare, one is the  $C_1a\sim$  schema and the second one is the  $\sim C_2C_2a-$  (Vanhove forth.:74-75).

Vanhove (forth.:75) notes that there is only one occurrence of the last strategy in her corpus with a quadrisyllabic verb in which the second consonant is geminate, that is, *halla~llafo:j* ‘swear~PLAC’.

(30) Beja (Afro-Asiatic, Cushitic)<sup>28</sup>

- a.      *o:t*                              *ti=nbide:j=t=ib*  
PX.SG.F.ACC                      DEF.F=yawn\INT.N.AC=INDF.F=LOC.SG  
*na:=t*                              *a-gam*  
thing=INDF.F                      1SG-ignore\MID.PFV  
‘I did not know why it yawned’

(BEJ\_MV\_NARR\_05\_eritrea\_377)

- b.      *ho:j*    *i-mo:-ga~ga:m-n=ho:b*  
3ABL    3-RECP-PLAC~ignore\PFV-PL=when  
‘When they were all considering each other as ignorant about it’

(BEJ\_MV\_NARR\_31\_QUARREL\_023)

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<sup>28</sup> The verb *ti=nbide:j=t=ib* ‘DEF.F=yawn\INT.N.AC=INDF.F=LOC.SG’ is marked for Intensive, but the verb that is under investigation in (3) is *a-gam* ‘1SG-ignore\MID.PFV’.

(31) Beja (Afro-Asiatic, Cushitic)

- a. *o:n* *o:=tak*  
PX.SG.M.ACC DEF.SG.M.ACC=man  
*sakana-am-an=ho:b*  
ask\_for\_news-MID-PFV.1SG=when  
'when I ask about this man,'  
(BEJ\_MV\_NARR\_04\_djinn\_111)
- b. *sakka~kana-sam-e:n* *e:n*  
ask\_for\_news~PLAC-RECP-IPFV.PL say\PFV.3PL  
'the dog that he has, talk together, they said'  
(BEJ\_MV\_NARR\_24\_LEZARD\_110)

The other strategy consists in the total reduplication of the verb stem, both for mono- and disyllabic verbs (cf. (32b) and (33b)).

(32) Beja (Afro-Asiatic, Cushitic)

- a. *to:t* *ti=takat*  
PX.SG.F.ACC DEF.F=woman  
*ti=waw-ti=t* *rh-i=ho:b*  
DEF.F=cry-AOR.3SG.F=INDF.F see-AOR.3SG.M=when  
'when he saw this woman who was crying,'  
(BEJ\_MV\_NARR\_14\_sijadok\_155)
- b. *tu:=ndi* *?akir-a:=t*  
DEF.SG.F.NOM=mother be\_strong-CVB.MNR=INDF.F  
*wa:w~wa:w-e:ti:t*  
PLAC~cry-CVB.ANT  
'the mother having wept a lot'  
(BEJ\_MV\_NARR\_13\_grave\_076)

(33) Beja (Afro-Asiatic, Cushitic)

- a. *a-nʔa*                      *a-tir=t*                      *a-fibib=ho:b*  
1SG-be\_down\PFV    1SG-lean\PFV=COORD 1SG-look\PFV=when  
‘when I leaned down and looked’  
(BEJ\_MV\_NARR\_01\_shelter\_105)
- b. *gidʔa=t*              *fibib~fibib-s-e:n=ho:b*  
shoe=INDF.F    look~PLAC-CAUS-IPFV.3PL=when  
‘when they look around for the shoes,’  
(BEJ\_MV\_NARR\_17\_shoemaker\_285)

#### 4.2.1.2 The functional domain of Beja pluractionals

From a functional point of view, the situation is more homogeneous than the one shown in the previous section.

In fact, both the occurrences of Intensive and Pluractional show a similar distribution over the functional values that the verbs can take.

*Intensive.* The verbs (V1) that can be derived through the internal modification of the stem can encode several functions, out of which the most encoded is mainly the iterative.

(34) Beja (Afro-Asiatic, Cushitic)

- e:-fibʔi*                      *e:n*                      *o:n*  
3SG.M-hit\INT.IPFV    say\PFV.3PL    PX.SG.M.ACC  
‘he hits him repeatedly, they said, this (man)’  
(BEJ\_MV\_NARR\_07\_cold\_59)

(35) Beja (Afro-Asiatic, Cushitic)

*o:=ka:m*                      *ni-fabb=e:t*                      *are:-na=aj*  
DEF.SG.M.ACC=camel 1PL-look\INT.PFV=REL.F      like-PFV.1PL=CSL

‘(I settled them down very well”. They told me: “We’ve come to you) because we would have liked to examine the camel”, (he said)’

(BEJ\_MV\_NARR\_03\_camel\_100)

There are situations in which a form can have both an iterative function and some other related functions depending on the context and the type of verb. These readings create the following double-function: iterativity/participant plurality (cf. (36)), iterativity/frequentativity (cf. (37)), iterativity/event internal plurality (cf. (38)), and iterativity/continuativity (cf. (39)).

(36) Iterativity/participant plurality

*a-da:jid*

1SG-gird\INT.PFV

‘I tightened them well’

(BEJ\_MV\_NARR\_03\_camel\_179)

(37) Iterativity/frequentativity

*f?i*                      *i=ra:w=i*

before                      DEF.M=other=POSS.1SG.NOM

*tab?-a:=b=u=it*

hit\INT-CVB.MNR=INDF.M.ACC=COP.3SG=CSL

‘because the other (my companion) had hit it before.’

(BEJ\_MV\_NARR\_15\_leopard\_091)

(38) Iterativity/event internal plurality

*u:=tak*                      *ho:j*                      *e:-fjid*                      *e:n*  
DEF.SG.M.NOM=man 3ABL                      3SG.M-laugh\INT.IPFV say\PFV.3PL

‘The man laughs at that, they said,’

(BEJ\_MV\_NARR\_24\_LEZARD\_066)

(39) Iterativity/continuativity

*handi-i*                      *whi:*                      *e:-ji:m=ho:b*  
tree-GEN.SG                      under 3SG.M-spend\_the\_day\INT.IPFV=when

‘when he spends the day under a tree,’

(BEJ\_MV\_NARR\_24\_LEZARD\_104)

The Intensive can encode some other functions. Specifically, the ones that we found in the texts and that are recurrent are the followings: (i) frequentativity/habituality (cf. (40)), (ii) participant plurality (cf. (41)), (iii) successive events (cf. (42)), and (iv) distributivity (cf. (43)).

(40) Frequentativity/habituality

*mali-a*                      *o:n*                                      *o:=džina*  
two-ORD                      PX.SG.M.ACC                      DEF.SG.M.ACC=baby

*wi=si-ra:k<sup>w</sup>o:-m-i:ni=b*

REL.M=CAUS-be\_afraid\INT-MID-IPFV.3SG.M=INDF.M.ACC

‘Then the baby who has nightmares’

(BEJ\_MV\_NARR\_33\_MEAT\_09)

(41) Participant plurality

*ti=takat*                      *digi:-ti*                                      *ho:so:*  
DEF.F=woman                      turn\_back-CVB.CSL                      3SG.ABL

*ge:d-ti=je:b=ka*

throw\INT-AOR.3SG.F=REL.M=DISTR

‘the woman was throwing stones at it away from her.’

(BEJ\_MV\_NARR\_05\_eritrea\_130)

(42) Successive events

<i>j=hankwil-a=ja:</i>		<i>dha:j jhak-i=t</i>
DEF.M=youth-PL=POSS.3PL.NOM	DIR	get_up-AOR.3SG.M=COORD
<i>i=d:fa</i>	<i>dha:j</i>	<i>i-na:gil-na</i>
DEF.M=door	DIR	3-open\INT.PFV-PL

‘His young messenger people got up towards him and opened the door for him’

(BEJ\_MV\_NARR\_14\_sijadok\_292-293)

(43) Distributivity

<i>?if-ti</i>	<i>gana:j=hi=wa</i>
let-CVB.CSL	gazelle=POSS.3SG.ACC=COORD
<i>ta~to:l-i=ho:b</i>	
PLAC~hunt\INT-AOR.3SG.M=when.	

‘While he kept on trapping his gazelle everywhere leaving them (the dead sons) alone’

(BEJ\_MV\_NARR\_18\_Adam\_devil\_298)

In (43), we can observe an interesting fact. The verb is marked contemporarily for both pluractional values of Beja, Pluractional and Intensive. This double marking gives a compositional reading, i.e., iterativity and distributivity function are expressed at the same time, and it is almost impossible to say which marker encodes which function. However, it is possible to theorize that the Pluractional gives the iterative, and the Intensive the distributive reading because reduplication more commonly tends to express stricter plural values. Similarly to the case of Akawaio, the functions that pluractional markers can

encode in Beja do not have the same number of occurrences. The Table 4.2 shows the number of occurrences for each function or cluster of functions.

<b>Function(s)</b>	<b>N° of occurrences</b>	<b>Percentage</b>
Iterative	95	52,2 %
Iterative/Participant plurality	20	11,0 %
Iterative/Frequentative	15	8,2 %
Iterative/Event internal plurality	5	2,7 %
Iterative/Continuative	5	2,7 %
Iterative/Distributive	1	0,6 %
Distributive	1	0,6 %
Participant plurality/Distributive	1	0,6 %
Participant Plurality	9	4,9 %
Frequentative/Habitual	14	7,7 %
Successive events	2	1,1 %
Dubious cases	14	7,7 %
<b>Total</b>	<b>182</b>	<b>100 %</b>

Table 4.2 – Number of occurrences of the functions encoded by Intensive in Beja.

The picture that emerges from the data seems to be unambiguous. The occurrences showing an iterative reading are about the half of the whole number of occurrences. In addition, if we take into account the occurrences that can have also an iterative meaning this number increases drastically reaching the 77,4 % of the total percentage.

It is also interesting that the most frequent function after iterativity is frequentativity/habituality, and not, for instance, simple frequentativity (not

attested) that, at least theoretically, should be closer to the meaning of iterativity. However, it does exist an explanation of this fact: in the texts, there is an important frequency (13 out of 14) of nouns referring to jobs or quality. These nicknames are conceptualized in Beja as frequentative/habitual instances. These nouns are: *curser*, *sentinel*, and *smart*. Morphologically, they are formed through nominalization (a verbal noun) derived with the Intensive.

(44) Beja (Afro-Asiatic, Cushitic)

*ʔo:t-ana:=t*                      *i:-d-n=e:t*                      *ho:j*  
 curse\INT-N.AGN=INDF.F      3-say\AOR-PL=REL.F    3ABL  
*ti:-fi*  
 3SG.F-be\_there\AOR.SBJ

‘there was the one who was called Curser,’

(BEJ\_MV\_NARR\_12\_witch\_033)

(45) Beja (Afro-Asiatic, Cushitic)

*fa:bbi=t-i*                      *fibib-i*                      *ti-ni=ho:b*  
 look\INT-N.AGN=INDF.F-VOC    look-IMP.SG.F    3SG.F-say\PFV=when  
 ‘When she said: “Sentinel, look well!”,’  
 (BEJ\_MV\_NARR\_12\_witch\_093)

(46) Beja (Afro-Asiatic, Cushitic)

*habba:ri=t*                      *wali:k-e:n=ho:b*  
 be\_smart\INT.N.AC=INDF.F    shout-IPFV.3PL=when  
 ‘When they call Smart,’  
 (BEJ\_MV\_NARR\_21\_SMART\_43)

Thus, the lexical meaning of such nouns is given by a construction that mainly means “the person who always/often curses/looks/is smart”. Consequently,

the several occurrences of frequentativity/habituality can be understood. In addition, the kind of text in which they appear, i.e. (long) tale, makes them more frequent than probably they would appear in other textual genres.

This situation must be considered in order to avoid a proliferation of occurrences that do not actually have such importance in Beja. We have only one clear occurrence of the ‘frequentative/habitual’ function reported in (40). The other thirteen occurrences are all represented by nicknames. Consequently, this frequency makes such function comparable to other ‘minor’ functions.

*Pluractional.* The functions encoded by the Pluractional marker (V1 and V2) are almost the same of the ones encoded by Intensive forms.

Also in this case, the most recurrent function is iterativity. Nevertheless, compared to the Intensive, the Pluractional markers show a less range of possible readings. The functions that these forms can encode are: (i) iterativity (cf. (47)), (ii) iterativity/frequentativity (cf. (48)), (iii) iterativity/distributivity (cf. (49)), (iv) iterativity/event internal plurality (cf. (50)), (v) participant plurality (cf. (51)), (vi) frequentativity/habituality (cf. (52)), generic imperfectivity (cf. (53)), and (vii) intensity (cf. 54)).

(47) Iterativity

*o:=tak nakka~kam-e:*

DEF.SG.M.ACC=man look\_round~PLAC-CVB.SMLT

‘while he was glancing at the man several times’

(BEJ\_NARR\_MV\_30\_PEAR1\_29)

(48) Iterativity/frequentativity

*u:=džina ga~gam-i.ni=ejt*

DEF.SG.M.NOM=baby PLAC~shout-IPFV.3SG.M=CSL

‘because the baby shouts’

(BEJ\_MV\_NARR\_33\_MEAT\_13)

(49) Iterativity/distributivity

*gidʔa=t          fibib~fibib-s-e:n=ho:b*

shoe=INDF.F    look~PLAC-CAUS-IPFV.3PL=when

‘when they look around for the shoes’

(BEJ\_MV\_NARR\_17\_shoemaker\_285)

(50) Iterativity/event internal plurality

*u:=biri                  ʔa~ʔak<sup>w</sup>-i*

DEF.SG.M.NOM=rain    PLAC~drip-AOR.3SG.M

‘the rain was dripping and [...]’

(BEJ\_MV\_NARR\_01\_shelter\_097)

(51) Participant plurality

*am-mar~ri-ja:=t*

*ʔamma*

*rhi-ji=ho:b*

RECP-find~PLAC-CVB.MNR=INDF.F

people

see-AOR.1SG=when

‘‘when I saw people gathered’

(BEJ\_MV\_NARR\_08\_drunkard\_184)

(52) Frequentativity/habituality

*fadʒil*

*u:=dhe:j*

*dha:j*

morning

DEF.SG.M.NOM=people

DIR

*jʔ-e:na=t=ka*

*za:~zu:r-e:n*

come-IPFV.3PL=COORD=DISTR

PLAC~visit-IPFV.3PL

‘In the morning, every time people go to his place, to visit him,’

(BEJ\_MV\_NARR\_08\_drunkard\_149)

(53) Generic imperfectivity

*ki=n-am-da~dʔar* *fa:wi*

NEG.IPFV=1PL-RECP-PLAC~marry\PFV then

‘The woman talks to him and says: “You, if you don’t tell me what you laughed at, you and me won’t be husband and wife anymore”, they said.’

(BEJ\_MV\_NARR\_24\_LEZARD\_076)

(54) Intensity

*ha:j gab~gab-e:ti* *i-ni:n* *e:-d-na*

COM PLAC~be\_rich-CVB.CSL 3SG.M-take\IPFV 3-say\IPFV-PL

*e:n*

say\PFV.3PL

‘he becomes over wealthy with it, they say, they said’

(BEJ\_MV\_NARR\_09\_jewel\_64)

Table 4.3 shows the relative number of occurrences for each (set of) function(s).

Function(s)	N° of occurrences	Percentage
Iterative	41	53,2 %
Iterative/Frequentative	7	9,1 %
Iterative/Distributive	5	6,5 %
Iterative/Event internal plurality	1	1,3 %
Participant plurality	7	9,1 %
Frequentative/Habitual	1	1,3 %
Generic imperfectivity	1	1,3 %
Intensive	2	2,6 %
Dubious cases	12	15,6 %

<b>Total</b>	<b>77</b>	<b>100 %</b>
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Table 4.3 – Number of occurrences of functions encoded by Pluractional in Beja.

Similarly to Intensive, iterativity covers about fifty percent of the total occurrences. Moreover, if we add also the cases in which the form can *also* have an iterative reading the percentage becomes 70,1 % of the total. It is noteworthy that in this case we find also two occurrences of intensity, and generic imperfectivity.

#### 4.2.2 The semantic map of pluractionals in Beja

From the picture emerged in the previous sections, it is now possible to draw the semantic map of pluractional constructions in Beja (cf. Figure 4.4).

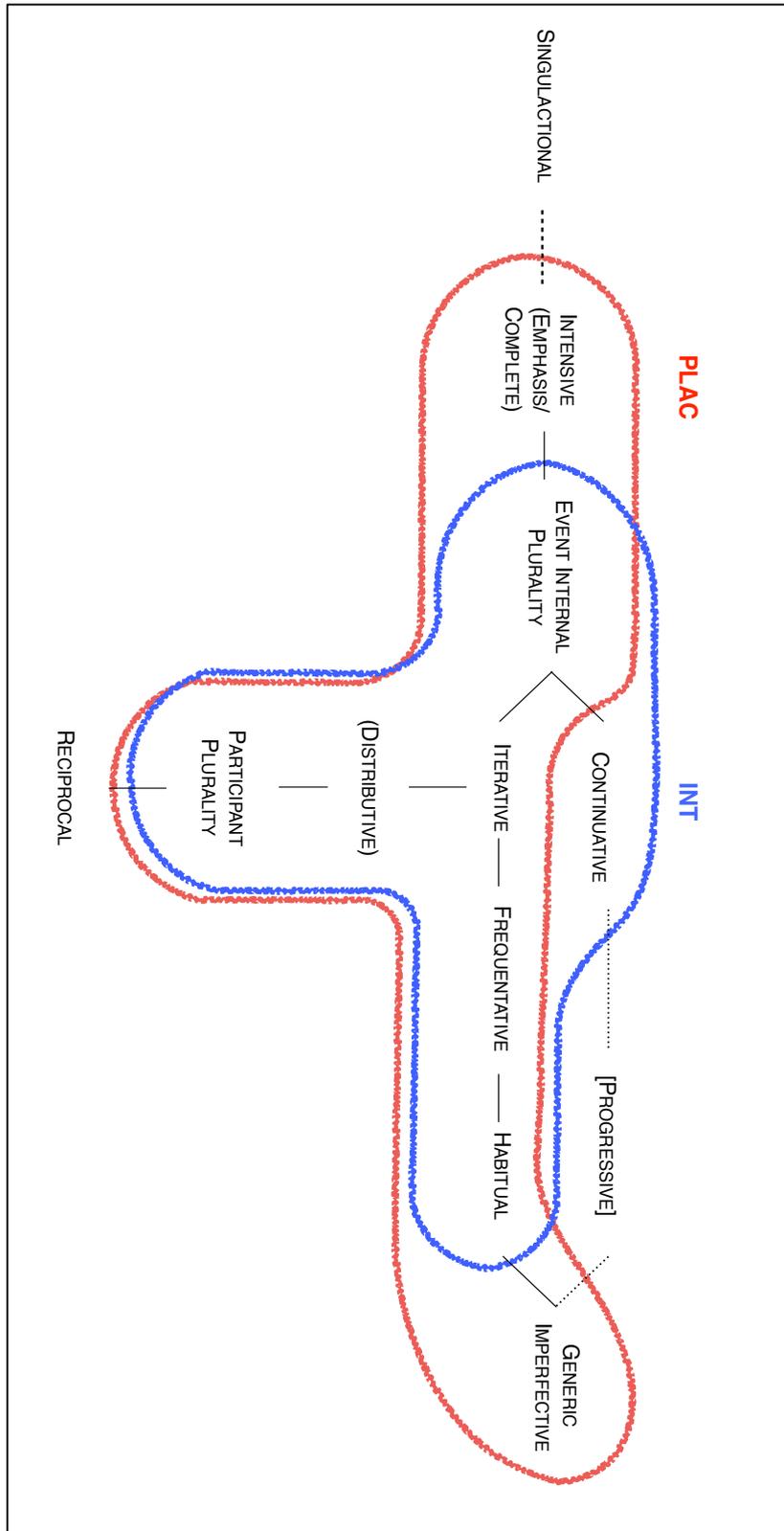


Figure 4.4 – Semantic map of pluractional constructions in Beja.

Contrary to the case of Akawaio, in Beja there is no necessity of drawing two different semantic maps. This is mainly due to the fact that while in Akawaio some sets of functions have a sensible different number of occurrences; in Beja, if we look at the most recurrent functions we should consider only iterative, that actually shows a high frequency in the corpus. However, in this way, the semantic map would become vacuous and, consequently, without any explicative force.

An important element comes out observing the semantic map: the two strategies of marking pluractionality in Beja practically cover the same functional area. The only difference lies in the wider functional domain of Pluractional than Intensive. The former is extended also to intensity and generic imperfectivity, while the latter is limited mainly to the central part of the space.

Despite this small difference, the (basically) functional identity of the two strategies confirms a cross-linguistic fact: the languages of the world generally tend to present more than one pluractional marker, but these markers do not have an individual specialization in the functional domain. In other words, in a specific language different pluractional markers tend to express all, or almost all, the functions that pluractional constructions express in that language. The presence of several pluractional devices seem to be due to a different lexical distribution.

#### 4.2.3 Pluractionality in Cushitic languages: an independent phenomenon

As for Akawaio, it can be interesting to observe what happens in other Cushitic languages. In particular, we will briefly present how pluractionality works in three languages: Gawwada (Cushitic, Dullay), Konso (Cushitic, Lowland East Cushitic), and Iraqw (Cushitic, Southern). In fact, we believe

that observing pluractional constructions of other Cushitic languages can be helpful to better understand also the situation of Beja and, in addition, can allow us to make some further considerations.

If we look, for example, at what happens in Gawwada (Cushitic, Dullay), we can see that in this language there are two different possible derivations that concern plurality of events. The first one serves to encode a single instance of an action (or diminutivity, cf. Tosco 2010:395). Tosco (2010:393) calls this verbal derivation *Semelfactive*<sup>29</sup> (cf. (55)) and it is marked through the gemination (reduplication) of the second consonant of the verb stem and, if it is present, of the third one, following this schema  $C_1V(V)C_2(V)(V)(C_3) \rightarrow C_1V(V)C_2\sim C_2\sim(V)(V)(C_3\sim C_3)$  (Tosco 2010:394).

(55) Gawwada (Cushitic, Dullay)

- a.  $\text{ʕuk}$  ‘drink’  $\rightarrow$   $\text{ʕuk}\sim\text{ki}$  ‘sip’
- b.  $\text{cox}\text{-}a$  ‘milk’  $\rightarrow$   $\text{cox}\sim\text{xi}$  ‘milk one udder only’
- c.  $\text{lepuy}\text{-}$  ‘kick’  $\rightarrow$   $\text{lep}\sim\text{p}\sim\text{uy}\sim\text{y}\text{-}$  ‘give a kicking’

(Tosco 2010:394-395)

In Gawwada, it is as well possible to derive an *Iterative* form (cf. (56)) marked through the reduplication of the first syllable. This strategy follows this schema  $C_1V(V)C_2(V)(V)(C_3) \rightarrow C_1V(V)\sim C_1V(V)C_2(V)(V)(\sim C_2)(C_3\sim C_3)$  (adapted from Tosco 2010:394). This derivation has the function of encoding the plurality of events, but it has also an *augmentative* value.

(56) Gawwada (Cushitic, Dullay)

- a.  $\text{ʕuk}\text{-}$  ‘drink’  $\rightarrow$   $\text{ʕu}\sim\text{ʕuk}\text{-}$  ‘chug’
- b.  $\text{keeʕ}$  ‘belch’  $\rightarrow$   $\text{kee}\sim\text{keeʕ}$  ‘keep on belching’
- c.  $\text{lepuy}\text{-}$  ‘kick’  $\rightarrow$   $\text{le}\sim\text{lep}\sim\text{p}\sim\text{uy}\sim\text{y}\text{-}$  ‘to keep on kicking’

---

<sup>29</sup> This is an instance of singulactionality (cf. Section 2.2.1.4).

(Tosco 2010:395-396)

We can find a very similar situation in Konso (Cushitic, Lowland East Cushitic). The basic verb (that can have both reading, singular or plural) can be derived for a *Punctual* or *Pluractional* (Ongaye Oda 2013:151-155).

The first derivation encodes a singularity of action (cf. (57)), while the second one marks the classical pluractional functions (iterative, frequentative, etc.) (cf. (58)).

(57) Konso (Cushitic, Lowland East Cushitic)

<i>namasi?</i>	<i>?inantasi?</i>	<i>?igʷoffay</i>
<i>nama-si?</i>	<i>inanta-si?</i>	<i>i=ʷof~f-ay</i>
person-DEF.F/M	girl-DEF.M/F	3=pinch~SG-PFV[3M]

‘The person pinched the child once.’

(Ongaye Oda 2013:154)

(58) Konso (Cushitic, Lowland East Cushitic)

<i>ʷimaytasih</i>	<i>hellaasini?</i>	<i>?igʷoʷʷofay</i>
<i>ʷimayta-si?</i>	<i>hellaa-sini?</i>	<i>i=ʷoʷʷ-ʷof-ay</i>
old.man-DEF.M/F	children-DEF.P 3=PL-pinch[PL]-PFV[3M]	

‘The old man pinched the children many times.’

(Ongaye Oda 2013:155)

Observing the examples, we can see that the strategies of marking these derivations in Konso reflect almost perfectly the strategies of Gawwada: i.e., gemination of the last consonant and the initial reduplication of the first syllable.

A particular situation in Konso is provided by the combination of both Punctual and Pluractional markers at the same time that gives a meaning of performing the action ‘few times’ (cf. (59)).

(59) Konso (Cushitic, Lowland East Cushitic)

*raakasi?*                      *?inantasi?*              *?iG'oG'offiti*  
*raaka-si?*                      *inanta-si?*              *i=G'o-G'offi-t-i*  
old.woman-DEF.M/F    girl-DEF.M/F    3=PL-pinch.SG-3F-PFV

‘The old woman pinched the girl a few times.’

(Ongaye Oda 2013:155)

In Konso, we can find also a set of verbs that are completely different (namely, two different lexical items), but that are connected semantically (stem alternation). These pairs of verbs generally encode the number of participants that are involved in the situation (participant plurality).

For example:

(60) Konso (Cushitic, Lowland East Cushitic)

a.     *inantasi?*                      *?ikeerti*  
         *inanta-si?*                      *i=keer-t-i*  
         girl-DEF.M/F                      3=run[SG]-3F-PFV

‘The girl ran.’

(Ongaye Oda 2013:152)

b.     *hellaasini?*                      *?ihirin*  
         *hella-sini?*                      *i=hir-i-n*  
         children-DEF.P                      3=run[PL]-PFV-PL

‘The children ran.’

(Ongaye Oda 2013:152)

(61) Konso (Cushitic, Lowland East Cushitic)

a.     *namasik*              *karmaa*              *i?iffay*  
         *nama-si?*              *karmaa*              *i=iff-ay*  
         man-DEF.M/F    lion                      3=kill[SG]-PVF[3M]

‘The man killed a lion.’

(Ongaye Oda 2013:155)

- b. *namasik karmadaa ileyfay*  
*nama-si? karmadaa i=leyf-ay*  
man-DEF.M/F lions 3=kill[PL]-PVF[3M]  
'The man (has) killed lions.'  
(Ongaye Oda 2013:155)

This similarity between Gawwada and Konso (in particular for the singulational forms) is not bizarre. In fact, it can be simply explained by taking into consideration the presence of a 'Southwest Ethiopian language area' as proposed by Sasse (1986). Tosco (2010) highlights in his paper the role that this language area can have:

"The Dullay varieties are part of a small language area described by Sasse (1986) and made up of Dullay, the Konsoid varieties of East Cushitic (Konso, Diraasha or Gidole, and others), the Highland East Cushitic language Burji, and Omotic Zayse. Absence of voice opposition among plain (pulmonic) plosives is probably the most salient phonological feature of this 'Southwest Ethiopian language area'. Among the morphosyntactic features of this language area, one of the most interesting is the presence of a 'Semelfactive' verbal extension."  
(Tosco 2010:394)

The situation of Iraqw (Cushitic, Southern) is slightly different, since we can find only a single derivation, called Habitual in Mous (1992), that marks pluractional functions. In particular, the reduplication of the verb stem gives a "habitual, iterative, durative, or pluractional meaning (pluractional refers to plurality of the subject or the object)" (Mous 1992:181).

For example:

(62) Iraqw (Cushitic, Southern)

*tokaro-yâ saree‘a i bará xats-ta-ka-r-wa*  
once-BREAK buffalo 3SBJ in:CON valley-F1-INDF-F-ABL

*qa-qéer*

HAB-graze:3.SG.F

‘Once upon a time, a buffalo wandered around in a certain valley’

(Mous 1992:299)

(63) Iraqw (Cushitic, Southern)

a. *a siiq-ít*

1/2SBJ cut-MID:1.SG

‘I am cutting’

(Mous 1992:181)

b. *peeháy u siiq-aaq-ít*

planks OBJ.M cut-HAB-MID:1.SG

‘I am sawing planks’

(Mous 1992:181)

What comes out from the data and the analysis given in these sections on Beja and Cushitic is quite straightforward. Cushitic languages seem to present a productive and independent category that can be called pluractionality. These properties can be pointed out by two facts. Firstly, pluractionality can co-exist with other grammatical categories without any kind of ‘opposition’. For example, there is not any problem in deriving on the same verb both a pluractional marker and an aspectual marker (cf. examples of Beja and Konso), but also with other verbal derivation such as the Causative and Reciprocal in examples (49) and (51) of Beja and the Middle in example (63) of Iraqw.

Then, it is also important to note the fact that these derivational devices can be applied roughly to all semantic types of verbs<sup>30</sup>. This demonstrates that in Cushitic languages pluractionality is a device available for almost all the verbs and, thus, that it can be used in almost all the contexts.

In addition, in its functional domain, this grammatical category probably represents the most prototypical case of pluractional constructions, that is, a set of constructions that encode mainly iterativity, frequentativity (though not prevalently), and participant plurality. In addition, these constructions can also mark situations that do not represent a core function of pluractionality, such as, event internal plurality, intensity, etc. These additional functions are mainly produced by the sum of the semantic value of pluractional markers with the specific actional value of the single verb.

In conclusion, it appears evident that pluractional constructions in Beja work in a specific way. In fact, we can say that in Beja there actually exists a grammatical category that can be properly called Pluractionality. This category can be expressed through two strategies of marking, ablaut of the verb stem and reduplication. These strategies represent what Vanhove (forth.) calls respectively Intensive and Pluractional.

These verbal derivations essentially fill a specific gap in the grammar of Beja, that is, they have the goal of making evident whether a situation is conceived, from the point of view of the speaker, as multiple or performed several times. This independent status of pluractional constructions within the grammar of a language is not a common fact in a cross-linguistic perspective. It is more often the case that this phenomenon is expressed through devices that belong to other language-specific category, such as aspect.

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<sup>30</sup> These markers can also be applied to some stative verbs such as ‘be smart’, ‘be thirsty’, ‘be incapable’, etc.; though only those types of stative verbs that Croft 2012 calls *transitory states* and not the more typical *inherent or permanent states* (cf. Croft 2012: Ch. 2).

### 4.3 Pluractionals in Maa (Nilotic, Eastern Nilotic)

Maa (also known as Maasai or Masai) is a language that belongs to the Nilo-Saharan family, one of the four Greenbergian language families of the African continent (cf. Greenberg 1963). The Nilo-Saharan family is particularly challenging to define and not all the scholars agree on its internal classification. Nevertheless, it is quite widely accepted that there exists a Nilotic branch. Maa is a Nilotic language, and, specifically, an Eastern Nilotic one.

Maa is spoken in Kenya by about 500.000 people belonging to three different self-identified ethnic groups, i.e., Maasai, Samburu, and Camus people; it is also spoken in Tanzania by about 500.000 people, and also in this case they belong to three different sub-groups, namely, Arusa, Kisonko and IIParakuyo people (cf. Payne 2008<sup>31</sup>).

From a grammatical point of view, Maa is basically a VSO language, but also some other word orders are accepted (e.g., SVO, OVS, and VOS) mainly because the information structure of the single clause (cf. Payne 2015 and the references cited therein). Two case patterns are found on Maa nominals and on certain nominal modifiers, both marked through a tone change. A nominative form is primarily used for transitive and intransitive subjects when they are post-verbal, and after the preposition *tɛ* to encode oblique functions (locative source, instrument, benefactive, and others) (see Payne 2011, 2012 for more details). The so-called accusative form (cf. Tucker & Mpaayei 1955:175-187) is used as citation form, with direct and indirect objects to encode several oblique functions that are not formed with the preposition *tɛ* and some other functions. The number and gender systems of Maa are composed of singular-plural and feminine-masculine-place

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<sup>31</sup> Cf. <http://uoregon.edu/~maasai/>.

distinctions (cf. Payne 1998 and Shirtz & Payne 2013). The latter value of gender is extremely rare<sup>32</sup> (cf. Tucker & Mpaayei 1955:15).

The language variety that is under investigation in this section is the Southern variety of Maa spoken in Kenya. We have analyzed 37 texts that were provided to us by Prof. Doris L. Payne (University of Oregon) and that were collected and glossed by her within a research project partially supported by NSF grants SBR-9616482 (1987-1999) and SBR-9809387 (1998-2004) and by U.S. Fulbright Foundation fellowships (1993-1994 and 2009-2010).

#### 4.3.1 Strategies of marking and functions of Maa pluractionals

In Maa, we can recognize at least two different ways to mark pluractionality: stem alternation, and reduplication of the verb stem.

However, it is possible to recognize at least another potential and probably incoming pluractional marker, that is, the directional (itive/traslocative) *-aá* ‘away’. In the following sections, the first two devices will be presented. A separate section will be dedicated to the interesting situation of the directional *-aá* ‘away’ (cf. section 4.3.3).

##### 4.3.1.1 Stem alternation

Probably, the alternation of singular and plural verb stems is the most common strategy to encode pluractional functions in Maa.

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<sup>32</sup> Tucker & Mpaayei (1955) just mention this value, and they note that probably only two words have ‘place’ gender: *e-weji* (SG) / *e-weji-tin* (PL) ‘place’ and *kaji* ‘Where? Which place?’ (Tucker & Mpaayei 1955:15), but it seems to be present also in some derived items, such as demonstratives (Payne p.c.).

As it was stated in the previous chapter, by ‘stem alternation’ we mean two completely different stems that show a semantic, and not paradigmatic, relationship. These two stems encode an alternation between singular and plural situations.

In Maa, as in many other languages of the world, stem alternation distinguishes situations in which a single participant is involved from the ones in which several people participate in the plurality of the events. In other words, the plural stems express the participant plurality type of pluractionality.

Though in the text analyzed it is the most common strategy to mark pluractionality in Maa, we have found only a single pair of stems that alternate in order to express a number distinction. These stems are forms of the verb that means ‘go’: the singular stem is *lo(t)* ‘go.SG’, while the plural stem is *puo(n)* ‘go.PL’. In this sense, it is more appropriate to say that stem alternation in Maa is the strategy with the highest number of instances in the texts we looked at (mainly due to the high frequency of the verb ‘go’).

(64) Maa (Nilotic, Eastern Nilotic)

- a.     *tenélo*                      *kulîê*                      *áñítie*  
           *tɛ-n[HL]-è-lo(t)*       *kulîê*                      *áñítie*  
           OBL-CN1-3-go.SG      others.ACC               houses.ACC  
           ‘when he goes to other homes.’ (elengon2.010b)
- b.     *óre peê*                *iló*                        *ɔrá*  
           *óre peê*                *[L]-i-lo(t)*                *ɔ-ra*  
           when                TEMP-2-go.SG                MSG.REL.ACC-be  
           *ɔlmúrráni*  
           *ɔl=múrráni*  
           M.SG=warrior.ACC  
           ‘when you go as a warrior’ (enkiama.002a)

(65) Maa (Nilotic, Eastern Nilotic)

- a. *népūōī*                      *áayaw*                      *ílō*                      *rinká*  
*n-è-po(n)-í*                      *áa<sub>1</sub>-ya-ú(n)*                      *ílō*                      *rinká*  
 CN1-3-go.PL-PL                      INF.PL-take-TOWARD                      that.MSG.ACC                      club.ACC  
 ‘They went to bring that club,’ (arinkoi.041a)
- b. *nélo*                      *inapá*                      *jorín*  
*n[HL]-è-lo(t)*                      *in=apá*                      *jorín*  
 CN1-3-go.SG                      F.PL=before                      war.parties.ACC  
*naápūōī*  
*n<sub>3</sub>-áá-puo(n)-í*  
 REL.F-FPL.REL.ACC-go.PL-PL  
 ‘he goes to the raids they used to go on’ (embul.103)

It is interesting to note that in Maa, the collective noun *kundi* ‘group’ (a loanword from Swahili) is grammatically singular and therefore it encodes a singular entity. Consequently, in the occasion in which there is a group of people or objects and the situation is performed simultaneously, the referent is conceived as a single entity and the singular stem will be used.

(66) Maa (Nilotic, Eastern Nilotic)

- nélo*                      *âî*                      *kundi*                      *enkái*                      *kóp*  
*n[HL]-è-lo(t)*                      *âî*                      *kundi*                      *en=ái*                      *kóp*  
 CN1-3-go.SG                      other.NOM                      group(Sw)                      F.SG=other.F.ACC                      earth.ACC  
*apá*  
*apá*  
 before  
 ‘Then one group goes to another land,’ (bulunoto.091b)

Noteworthy is the interesting situation of the verb ‘come’. In Maa, the verb ‘come’ is derived applying the directional *-u(n)* ‘toward’ to the root ‘go’.



Plural	‘go’	<i>puo(n)</i> go.PL	<i>ou</i> go.SBJN.PL
	‘come’	<i>puon-u(n)</i> come.PL(/go.PL-TOWARD)	<i>etu/etuo</i> come.SBJN.PL

Table 4.4 – Verb stems of the verbs ‘go’ and ‘come’ in Maa (Doris Payne p.c.).

(68) Maa (Nilotic, Eastern Nilotic): ‘go’ Non-perfect

- a. *nélo*                      *ɔmetábana*  
*n-è-lo(t)*                  *ɔ=m-è-tV-ba-(k)*  
CN1-3-go.SG    until=SBJN.JUS-3-SBJN-reach-SBJN  
‘It went until it reached a time (when)’

- b. *népuo*                      *nona*                      *kérâ*  
*n[HL]-è-puo(n)*              *nona*                      *kérâ*  
CN1-3-go.PL                  those.NOM              children.NOM  
*náamení*  
*n-áa<sub>2</sub>-men-í<sub>3</sub>*  
REL.F-FPL.REL.NOM-belittle-PASS  
‘these children, who are despised, go’

(69) Maa (Nilotic, Eastern Nilotic): ‘come’ Non-perfect

- a. *nílotú*                                      *aduḡokí*                      *enkárná*  
*n[HL]-i1-lo(t)-ú(n)*                      *a2-duḡ-akín*                      *en=árná*  
CN1-2-go.SG-TOWARD                      INF.SG-cut-DAT                      F.SG=name.ACC  
‘You come to give her a name (you get to the point of giving her a name)’ (embul.055)

- b. *népūōnū*                                      *ilpáyiani*                      *dúóó*  
*n-è-puo(n)-ú(n)*                              *il=páyiani*                      *dúóó*  
CN1-3-go.PL-TOWARD                      M.PL=elders.NOM                      previous  
‘men from the neighborhood will come’ (embul.124)

(70) Maa (Nilotic, Eastern Nilotic): ‘to go’ perfect/subjunctive

- a. *ɔmeshómɔ* *aduaayá*  
*ɔ=m2-è-shómɔ* *a2-dɔl-áa*  
 until=SBJN.JUS-3-go.SBJN.SG INF.SG-see-AWAY  
*ilɔiŋók* *teidîê*  
*il=ɔiŋók* *tɛ-idîê*  
 M.PL=bulls.ACC OBL-that.place.NOM  
 ‘until he has gone to see bulls far away’ (enamuke1.0010)
- b. *peé* *éwûô* *ɔó*  
*peé* *[L]-è-wuo* *ɔó*  
 purpose TEMP-3-go.SBJN.PL PSR.PL.ACC  
*intóiwúó* *énye*  
*in=tóiwúó* *énye*  
 F.PL=parents.NOM 3SG.POSS.NOM  
 ‘so (that) going of his parents’ (Payne p.c.)

(71) Maa (Nilotic, Eastern Nilotic): ‘to come’ perfect/subjunctive

- a. *ɔ* *meû* *naá*  
*ɔ* *m-éû* *náa<sub>2</sub>*  
 until SBJN.JUS-come.SG.SBJN FOC  
*erishatá* *é* *míráta*  
*è-rish-ata<sub>1</sub>* *é<sub>2</sub>* *míráta*  
 3-separate-NMLZ.ACTIVE.SG FSG.PSR age.group.ACC  
 ‘until the time for circumcision (lit: the separation of age groups)  
 comes’ (embul.058)
- b. *etuŋuayioki* *néínɔsi,*  
*[L]-è-tV-ŋuayie-á(k)-í3* *n[HL]-è-inɔs-í3,*  
 TEMP-3-PF-leave.PF-PF-PASS CN1-3-eat-PASS

<i>omeyétuní</i>	<i>kenyá</i>
<i>o-m<sub>2</sub>-è-étu-í<sub>3</sub></i>	<i>kenyá</i>
until-SBJN.JUS-3-come.PL.SBJN-PL	eventually

*emányátá*

*en=mányátá*

F.SG=warrrior.kraal.ACC

‘when he was left, they were eaten, until they arrive at the ceremonial home’

From what is shown in Table 4.4 and in the examples, it becomes evident that we cannot consider all these stems as cases of stem alternation. As was stated above, the verb ‘come’ has to be conceived as a derivation of the alternated stems of ‘go’; while the situation of Non-perfect versus Perfect/Subjunctive stems is paradigmatically determined and, thus, it represents a case of suppletion.

#### 4.3.1.2 Reduplication

The second available strategy for marking pluractionality in Maa consists in the reduplication of the verb stem.

In this case, it is important to make some preliminary considerations. In fact, even though probably reduplication used to be the authentic strategy to mark pluractionality in this language, nowadays this has a low frequency (at least in our corpus). Thus, it is possible to suggest that reduplication is no more productive, or not as productive as it may have been in a hypothetical former diachronic stage. It is possible to demonstrate this situation on the basis of some evidence and facts found analyzing the occurrences of reduplicated verb forms.

A first important consideration deals with the frequency. In the texts analyzed, only fifty-three occurrences were found versus the almost four hundred occurrences of stem alternation, though these occurrences are basically limited to two high-frequency roots (we found one hundred and fifty-eight occurrences of ‘go.PL’). In addition, twenty-five of these fifty-three occurrences (almost half) appear to be cases of lexicalized reduplicated forms. These cases cannot be considered real instances of pluractional constructions mainly because their pluractional function is no more evident, i.e. the reduplication in these cases does not have anymore a grammatical function, even though in some cases they show a residual trait that can be associated with pluractionality. A third argument is provided by Dimmendaal (2014). He notes that in some Nilotic languages, and specifically in Maa, a certain type of reduplication was reinterpreted as marker of nominal number, in particular as second person plural marker (cf. (72)); see Dimmendaal 2014:65-70). Finally, in the texts it is also possible to encounter some cases in which the verb is repeated (repetition and not reduplication) for textual/pragmatic purposes that express a sort of pluractional function (cf. 73).

(72) Maa (Nilotic, Eastern Nilotic)

	Singular		Plural	
1	<i>á-túm</i> ‘I acquire’		<i>ki-tum</i>	‘we acquire’
2	<i>í-túm</i> ‘you acquire’		<i>í-túm-ú-túmu</i>	‘you acquire’
3	<i>é-túm</i> ‘(s)he acquires’		<i>é-túm</i>	‘they acquire’

(Dimmendaal 2014:68)

(73) Maa (Nilotic, Eastern Nilotic)

<i>népúó</i>	<i>aké,</i>	<i>népúó</i>	<i>aké,</i>	<i>népúó</i>
<i>n[HL]-è-puo(n)</i>	<i>aké,</i>	<i>n[HL]-è-puo(n)</i>	<i>aké,</i>	<i>n[HL]-è-puo(n)</i>
CN1-3-go.PL	just,	CN1-3-go.PL	just,	CN1-3-go.PL

*aké, néinepwní                      ɔlkejú                      orúko*  
*aké, n[HL]-è-inεpɯ(n)-í<sub>3</sub>      ɔl=kejú                      ɔ-ruk-a<sub>1</sub>*  
 just    CN1-3-find-PL                      M.SG=leg.ACC MSG.REL.ACC-flow-MID.NPF  
 ‘They went, they went, they went, and they came to flowing stream of water’  
 (elephare.006-elephare.007)

Nevertheless, we found also twenty-three cases<sup>33</sup> in which the reduplicated verb has a pluractional reading, and for this reason we decided to present this device in the present section.

From a morphological point of view, pluractional reduplicated verbs follow a quite simple schema: the total reduplication of the verb root with an epenthetic vowel between the reduplicants (cf. (74)), though not always (cf. (75)).

(74) Maa (Nilotic, Eastern Nilotic)

- a.     *aá-duɲuduɲ*  
        *aá-duɲ-u-duɲ*  
        INF.PL-cut-EP-cut  
        ‘to cut’
- b.     *nεɲamiɲami*  
        *n[HL]-ε-ɲam-i-ɲam-i*  
        CN1-3-make.small.cut-EP-make.small.cut-PASS  
        ‘then small cuts are made’
- c.     *ínyórrínyórrɔ*  
        *i-nyórr-i-nyórr-a*  
        2-like-EP-like-MID.NPF  
        ‘you agree’

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<sup>33</sup> The occurrences are distributed as follows: 25 lexicalized reduplications, 23 pluractional readings, 4 pragmatic values, 1 nominal marker (2nd person plural).

(75) Maa (Nilotic, Eastern Nilotic)

a. *ínyánya*

*i1-nya-nya*

2-eat~eat

‘you all eat’

b. *kilepílep*

*k[H]-e-ilep~ilep*

CN2-3-climb~climb

‘it climbs’

The pluractional functions that these forms can encode are quite precise. We found occurrences that express the following functions: (i) iterativity (cf. (76)), (ii) participant plurality (cf. (77)), (iii) iterativity/participant plurality (cf. (78)), (iv) frequentativity (cf. (79)), and (v) habituality (cf. (80)).

(76) Maa (Nilotic, Eastern Nilotic)

*kéηurrúηurr*

*kɛlɔ*

*tɛηaná*

*k[H]=è-ηurr-i<sub>2</sub>-ηurr*

*kɛlɔ*

*tɛηaná*

CN2-3-cut.cruelly-EP-cut.cruelly

these.M.ACC

people.NOM

*enkírórótó*

*en=kírórótó*

F.SG=conversation.ACC

‘these people keep on cutting the conversation’ (camus2.127)

(77) Maa (Nilotic, Eastern Nilotic)

*níkiduηúduη*

*n[HL]-kí-duη-i-duη*

CN1-1PL-cut-EP-cut

‘we shall cut it into pieces.’ (arinkoi.011b)

(78) Maa (Nilotic, Eastern Nilotic)

*néóriwɔríki*                      *taá*                      *túkál*  
*n[HL]-è-ɔr-i-ɔr-íkin*              *taá*                      *túkál*  
 CN1-3-divide-EP-divide-DAT FOC.EXCL      completely

‘And she absolutely divides everything among them.’ (enkeeya2.027)

(79) Maa (Nilotic, Eastern Nilotic)

*inchɔ́ki*                              *puán*  
*i-ishɔ(r)=ki*                      *puán*  
 2-give=1SG.OBJ                      life.ACC  
*naiyeηiyeyηnyε*    *amú*  
*n<sub>3</sub>-a<sub>4</sub>-iyeyη-iyeyη-nyε*    *amú*  
 REL.F-FSG.REL.ACC-breathe~breathe-TOWARD.MID      because

*káidim*                      *ataány#*                      *iyié*                      *enkái*  
*k=a-idim*                      *a-tV-any#*                      *iyié*                      *enk=ái*  
 CN2=1SG-be.able      INF.SG-SBJN-wait.for      2.SG.ACC      F.SG-God.ACC

*nátejó*  
*n-á-tV-jo-á(k)*  
 REL.F-FSG.REL.NOM-PF-say-PF

“‘Give me life that comes steadily because I can wait, it is you God who has said it.’” (enkai.015)

(80) Maa (Nilotic, Eastern Nilotic)

*ínyánya*              *táatá*      *íntāī*                      *isínkírr*  
*í-nya~nya*              *táatá*      *íntāī*                      *in=sínkírr*  
 2-eat~eat      now      you.PL.NOM      F.PL=fish.ACC

‘Do you eat fish?’ (Camus4.326)

It seems unusual the absence in Maa of occurrences with an event-internal plurality reading. This is a quite common function of pluractional

constructions in Eastern African languages. The situation becomes more unusual if compared to the presence of occurrences of functions that are less widespread cross-linguistically, such as habituality. The apparent lack of event-internal plurality can be easily explained taking into account the lexicalized forms. In fact, these forms consist almost always in verbs that have a clear *repetitive* sense, i.e., a value that is strictly correlated with event-internal plurality. For instance, this is the case of verbs like ‘boil’ and ‘shake’ in (81a-b). However, it is harder to explain the semantics of the verb ‘fool around’ (cf. (81c)).

(81) Maa (Nilotic, Eastern Nilotic)

- a. *ényaakí* *énchəm*  
*én-nyaaka(k)-í<sub>1</sub>* *én-shəmɔ*  
 PL.SBJN-do.again.PF-SBJN PL.SBJN-go.SBJN  
*éyakákí* *kulé* *naítəkítək*  
*én-ya-akin-á(k)=kí* *kulé* *n[HL]-a<sub>2</sub>-itəkítək*  
 PL.SBJN-take-DAT-SBJN=1SG.OBJ milk.ACC CN1-INF.SG-boil  
 “Go again and bring me fresh milk that is still boiling”  
 (arinkoi.016b)
- b. *elúkúnyá* *eikirikírīē*  
*ε=lúkúnyá* *e-ikirikír-íé(k)*  
 F.SG=head.ACC 3-shake-INST  
*etígiráte* *náají*  
*[L]-è-tV-gíra-ate* *n-áa-jo-í*  
 TEMP-3-PF-be.quiet-PL.PF.MID REL.F-FPL.REL.NOM-say-PASS  
*metáa* *tenétóní*  
*m<sub>2</sub>-è-táa* *tε-n[HL]-è-tɔn-í*  
 SBJN.JUS-3-become OBL-CN1-3-sit-PL  
 ‘it is the head they shake when they have kept quiet so that when they sit’ (errancoi.042)

- c.     *ninché*         *ilapá*         *lakáaibarrá*    *loó*  
*ninché*         *il=apá*         \*\*\*             *l<sub>1</sub>-ɔ́ɔ<sub>1</sub>*  
them.ACC        M.PL=before    that are white   M.PSD-PSR.PL.ACC  
*ntirmân*                     *amâ*             *kéímálímal*  
*in<sub>1</sub>=tirmân*                 *amâ*             *k[H]=è-ímálímal*  
F.PL=walking.sticks.ACC    because         CN2=3-fool.around  
*olêŋ*  
*olêŋ*  
very  
‘They are the ones called the mischievous ones with white crutches  
they are negligent in terms of taking care cattles’ (inkiri.017)

Thus, it is plausible that the repetitive value of these verb concepts has led to conceive of reduplicated forms no longer as derived pluractional-marked verbs, but as basic verbs that express a specific type of actional value.

#### 4.3.2 The semantic map of pluractionals in Maa

From the data presented in the previous sections, it is now possible to build a semantic map that shows the functional domain of pluractional constructions in Maa (cf. Figure 4.5).

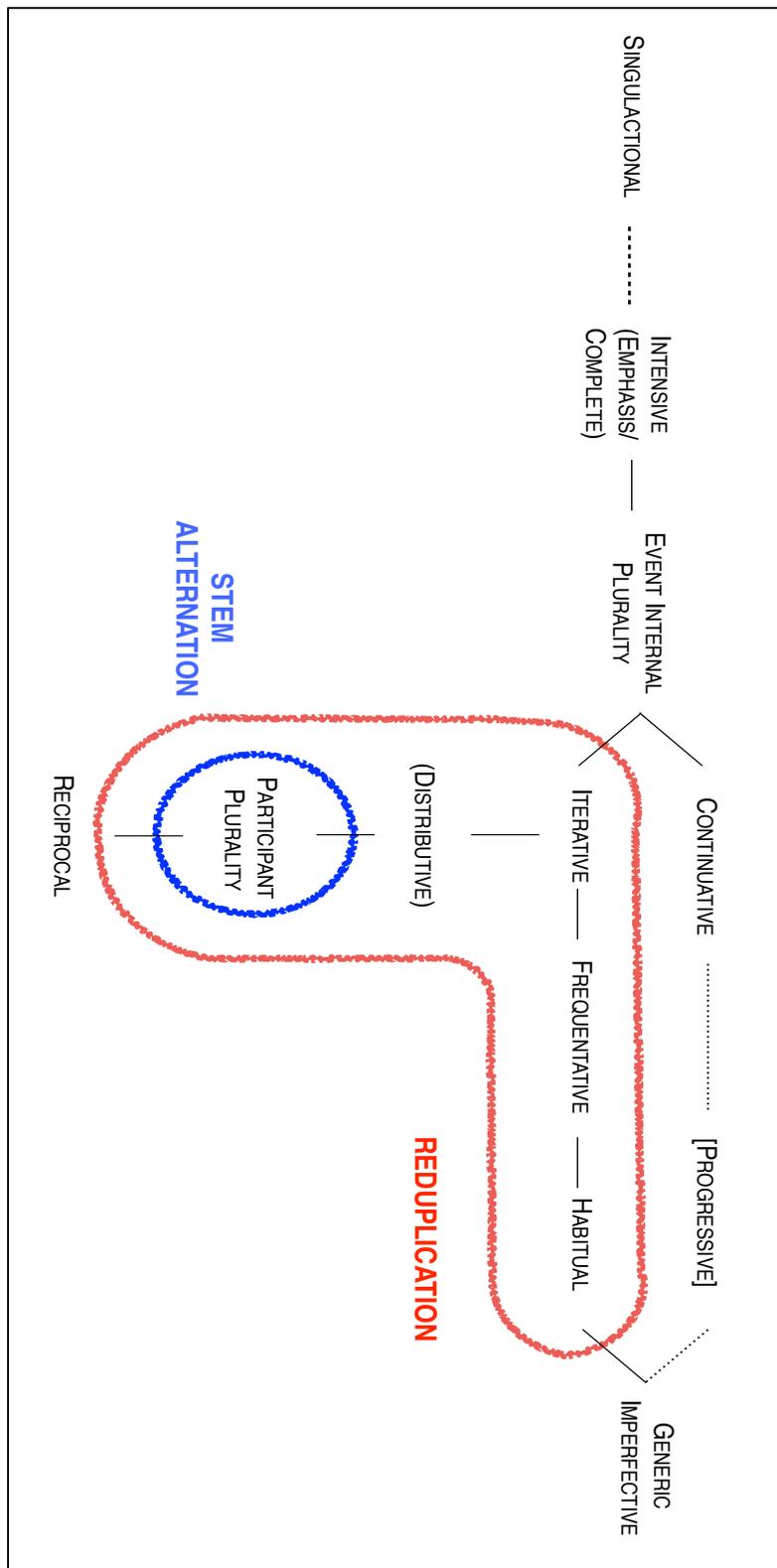


Figure 4.5 – Semantic map of pluractional constructions in Maa.

Several considerations can be drawn from Figure 4.5.

Firstly, we can say that in Maa pluractional constructions cover a specific functional domain that essentially overlaps with the area in which the core functions are displayed. The only exception is offered by the presence of habituality that, however, does not have a high frequency in the texts analyzed (it was found only once).

This limited range of functions is not common for pluractional constructions. Cross-linguistically, these constructions tend to show a considerable multifunctionality that extends further beyond the core functional domain. This cross-language comparison can be interpreted as a supplementary evidence of the limited productivity of pluractional markers in Maa. In addition, if we consider two facts that concern the frequency of the two pluractional strategies of marking of this language, it will become evident that in Maa this phenomenon seems not to be so productive:

- (i) stem alternation applies only to a single verb (pair), though it is the very high-frequency verb ‘go’. We found 396 occurrences of this verb and 238 of them were of the form go.SG while 158 of the form go.PL;
- (ii) then, as it was previously noted, in the texts only 23 occurrences of reduplication encode a pluractional function (cf. Table 4.5).

<b>Functions</b>		<b>N° of occurrences</b>	<b>Percentage</b>
Pluractional	Iterative	9	17,0 %
	Participant plurality	10	18,9 %
	Iterative/Participant plurality	1	1,9 %
	Frequentative	2	3,8 %
	Habitual	1	1,9 %
	<b>Total</b>	<b>23</b>	<b>43,5 %</b>

Lexicalized	25	47,1 %
Textual	4	7,5 %
2 Person plural	1	1,9 %
<b>Total</b>	<b>53</b>	<b>100 %</b>

Table 4.5 – Functions of reduplicated verbs in Maa.

In addition, some further facts must be taken into consideration: (i) the limited functional domain of the strategies; (ii) the distribution of the occurrences (cf. Table 1.1) in a restricted set of functions (the ‘more’ prototypical); and also (iii) that several reduplicated forms are becoming (or became) actual new lexemes (lexicalization). Thus, we can say that reduplication is not a very frequent device in Maa, and, though it is still present, its productivity is challenged.

In conclusion, the picture that comes out from this situation leads us to identify Maa pluractional devices as peripheral in the grammar of this language.

#### 4.3.3 The case of directional Away: an incoming pluractional marker?

Despite what was argued in the previous sections, we have found evidence of a possible functional shift of a pre-existing grammatical marker towards pluractional functions.

As in many other Nilotic languages, Maa presents two directional markers: the suffix *-áa* has an ‘andative [AWAY from a reference of point]’ (cf. Creissels et al. 2007:148) function and is called AWAY in Payne (2013) (cf. (18b)); and the suffix *-ú* has a ‘venitive [TOWARD a reference of point]’ (cf. Creissels et al 2007:148) that Payne (2013) calls TOWARD (cf. (82c)).

(82) Maa (Nilotic, Eastern Nilotic)

- a. *a-súj*  
INF.SG-follow  
'to follow'  
(Payne 2013:260)
- b. *a-súj-aá*  
INF.SG-follow-AWAY  
'to follow away'  
(Payne 2013:260)
- c. *a-súj-ú*  
INF.SG-follow-TOWARD  
'to follow hither'  
(Payne 2013:260)

In this section, we will briefly present the functional characteristics of the Maa AWAY morpheme *-áa*.

Firstly, this morpheme shows a huge number of allomorphs. This wide range of possibilities is partly due to the vowel harmony system of Maa. The allomorphs are: *-áa*, *-óo*, *-óɔ*, *-aya*, *-oyo*, *-ɔyɔ*, *-oor*, *-aar*, *-or*, *-ar*, *-ay*, *-oy*, *-a*, *-o*, *-ɔ*, and some other forms due to tonal changes.<sup>34</sup>

Payne (2013) describes at least six main functional areas that this marker covers: (i) occurrences that express a value connected with 'movement away', i.e., motion (away) and direction away (without translational movement) (cf. Payne 2013:266-270); (ii) occurrences that express a value connected with the notion of plurality, i.e., plurality of the participants, multiplicity of action/situation (cf. Payne 2013:270-274); (iii) occurrences that express a 'continuous aspect' value (cf. Payne 2013:274-276); (iv) occurrences that

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<sup>34</sup> The allomorphs will not concern us here; for some more analysis, see Payne (2013:261-265).

express a value with an ‘applicative-like effect (with agent-source verbs)’ (cf. Payne 2013:276-278); occurrences that have a detransitivization function (cf. Payne 2013:278-279); and (vi) some occurrences that have undergone a lexicalization process (cf. Payne 2013:279-281). In what follows, we will provide some examples:

(83) Maa (Nilotic, Eastern Nilotic): Movement Away

a. Motion (away)

*en-tít<sup>↓</sup>ó*      *túkúl*      *n-a-to-rik-óyi-ok-í*

F.SG-girl.ACC completely REL.F-FSG.REL.ACC-PF-lead-AWAY-PF-PASS

‘a girl that has been completely led away’ [i.e. married; this traditionally involves leading the girl from her parents’ home, even walking hundreds of kilometers to her new home] (enkiama.025d)

(Payne 2013:267)

b. Direction away (without translational movement)

*N-é-íbuŋ-i*      *enk-áíná*      *áa-yiat-aa.*

CN1-3-hold-PASS FSG-arm.ACC INF.PL-stretch-AWAY

‘The hand is held to pull them (=the fingers) to stretch them out’ (embul.015)

(Payne 2013:269)

(84) Maa (Nilotic, Eastern Nilotic): Plurality

a. Plurality of intransitive subjects

*N-é-<sup>↓</sup>ákú*      *táatá té-íne*      *wúéjî*      *taá*

CN1-3-become now OBL-that.place.NOM place.NOM like.that

*e-likín-<sup>↓</sup>í*      *im-báa*      *n-áa-paash-ár-i*

3-tell-PASS FPL-issues.ACC REL.F-3FPL.REL.ACC-detour-AWAY-MID

‘So now in that place they will be told things that differ (lit. things that depart from each other)’ (bulunoto.073)

(Payne 2013:271)

b. Plurality of transitive subjects

<i>n-é-tum-okí</i>	<i>taá</i>	<i>il-éwâ</i>	<i>áa-inɔs-aá</i>
CN1-3-get-DAT	like.that	MPL-men.NOM	INF.PL-eat-AWAY
<i>inyóɔ?</i>	<i>en-dáa</i>	<i>é-na</i>	<i>dúóó</i>
what.ACC	FSG-food.ACC	F.PSR.PRT-this.f.ACC	relevant
<i>ají</i>			
house.ACC			

‘and men will be able to eat what? Food from this house’ (eishoi.013b)  
(Payne 2013:272)

c. Plurality of objects

<i>K-é-ítu.lulɔŋ-á↓á</i>	<i>aké</i>	<i>nínyɛ</i>	<i>in-tokitín</i>
CN2-3-CAUS-whole-AWAY	just	3SG.NOM	FPL-things.ACC
<i>é</i>	<i>ɣótónyé</i>		
F.PSR.PRT	mother.PSD.ACC		

‘He takes all the things of his mother.’ (embul.143)  
(Payne 2013:272)

d. Multiplicity of actions and situations

<i>N-é-rany-akí</i>	<i>aké</i>	<i>a-ikɔn-aá</i>	<i>néjia</i>	<i>ánaa</i>
CN1-3-sing-DAT	just	INF.SG-do-AWAY	like.that	like
<i>aké</i>				
again				

‘She sang to her like that every day’ (Divorce.019)

(85) Maa (Nilotic, Eastern Nilotic): Continuous aspect

<i>K-é-nár↓ɛ</i>	<i>naá</i>	<i>k-é-ítu-bul-áa</i>	
CN2-3-be.fitting	FOC	CN2-3-CAUS-grow-AWAY	
<i>il-Maasáí</i>	<i>en-apá</i>	<i>Lejón</i>	<i>enyê</i>
MPL-Maasai.PL.NOM	FSG-formerly	generosity.ACC	3PL.POSS.ACC
<i>apá-k↓é</i>	<i>n-a-át↓á.</i>		
formerly-just	REL.F-FSG.REL.ACC-have		

‘It is fitting the Maasai keep making their former generosity flourish.’  
 (elengon.061)  
 (Payne 2013:275)

(86) Maa (Nilotic, Eastern Nilotic): Applicative-like effect with agent-source verbs<sup>35</sup>

<i>É-gíra</i>	<i>ol-páyian</i>	<i>a-dót</i>	<i>en-kǝrmá</i>
3-PROG	MSG-man.NOM	INF.SG-weed	FSG-field.ACC
<i>a-dot-ú</i>		<i>en-díátí.</i>	
INF.SG-weed-TOWARD		FSG-weed.ACC	

‘The man is weeding the field uprooting the weeds.’ (K)  
 (Payne 2013:276)

(87) Maa (Nilotic, Eastern Nilotic): Detransitivization

a. *Á-mán-íta*      *ol-órika.*  
 1SG-encircle-PROG    MSG-chair.ACC  
 ‘I am going around/encircling the chair’ (KS)  
 (Payne 2013:278)

b. *Á-mán-áa*  
 1SG-encircle-AWAY  
 ‘I’m going (around) for a walk.’ (KS)  
 (Payne 2013:279)

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<sup>35</sup> Payne (2013) notes that: “In the text corpus used, no instances of AWAY occur on AGENT-SOURCE roots. [...] [T]he first instance of *dot* takes the SOURCE ‘field’ as its grammatical object. The second instance of the root *dot* appears with the TOWARD directional *-u* and takes the unwanted theme ‘weed’ as the grammatical object.” (Payne 2013:276).

(88) Maa (Nilotic, Eastern Nilotic): Lexicalization

<i>bási,</i>	<i>óre</i>	<i>naá</i>	<i>en-tóki</i>	<i>n-í-tá-ηámáy-ie,</i>
so	DISCN	FOC	FSG-thing.ACC	REL.F-2-PF-receive.AWAY-PF
<i>tí-rríp-o</i>		<i>naá</i>		
SBJN-guard-SBJN		FOC		

‘so, what you have received, guard it then’ (Camus2.162)

(Payne 2013:280)

It is important to note two factors that are pivotal: (i) in some cases, the functions presented by Payne (2013) are quite intricate to interpret (cf. the ‘Applicative-like effect with agent-source verbs’ example), and she recognizes herself this issue (cf. specifically Payne 2013:276-279); (ii) it is also undeniable that this marker often retains a ‘motion’ value. However, it is unquestionable that the AWAY marker is multifunctional and covers a wide range of functions. In what follows, we will concentrate only on the plural functions that *-áa* can express.

Of the extended (non-motion away) functions of the *-áa* morpheme, plurality is the next-most common function. In fact, Payne (2013) notes that, though rarely, some of these ‘additional’ functions tend to be marked by AWAY without any reference to a motion value. This is particularly true for multiplicity of actions/situations.

For example, in (89) the presence of *-áa* conveys a situation in which an action is performed several times.

(89) Maa (Nilotic, Eastern Nilotic)

<i>népuo</i>	<i>adé</i>	<i>ilmúrrân</i>	<i>ló</i>
<i>n[HL]-è-puo(n)</i>	<i>adé</i>	<i>il=múrrân</i>	<i>ll-ó</i> <sub>1</sub>
CN1-3-go.PL	later	M.PL=warriors.NOM	M.PSD-PSR.PL.ACC

<i>Láikípia</i>	<i>áapuo</i>	<i>áainɔsaa</i>
<i>il=áikípia</i>	<i>áa<sub>1</sub>-puo(n)</i>	<i>áa<sub>1</sub>-inɔs-áa</i>
M.PL=Laikipia.people.NOM	INF.PL-go.PL	INF.PL-tell-AWAY

‘the Laikipia warriors went to report (tell out/repeatedly)’ (emutata.036b)

The frequency of this kind of occurrence (i.e., in which the andative clearly expresses a pluractional function) is fairly rare in the texts. We found only eight such cases out of a total of ninety-five occurrences of *-áa*, less than ten percent (8,4 %). In any case, it is also possible to find examples in which the AWAY marker mainly encodes a situation that involves movement, though plurality also happens to be present. In the texts analyzed, we found seven occurrences of this type (7,4 %). For example, this is the case in particular of the verb ‘to surround/encircle’. When *-áa* is applied, this verb acquires the meaning of ‘to keep moving around’ (cf. (90), but also (87)).

(90) Maa (Nilotic, Eastern Nilotic): Motion (away)

<i>Némanáa</i>	<i>taá</i>	<i>tɔ</i>	<i>lcháni</i>
<i>n[HL]-è-man-áa</i>	<i>taá</i>	<i>tɛ</i>	<i>ɔl=cháni</i>
CN1-3-surround-AWAY	FOC.EXCL	OBL	M.SG=tree.NOM

‘He [the warrior advising the hero] kept moving (from one end to the other addressing the audience) in the meeting.’ (arinkoi.056a)

(91) Maa (Nilotic, Eastern Nilotic): Direction away

<i>néjo</i>	<i>áíjúrāā</i>
<i>n[HL]-è-jo</i>	<i>á3-ijɔr-áā</i>
CN1-3-try	INF.SG.SBJN-look-AWAY

‘he tried to look around’ (elephare.031c)

Therefore, there exist situations in which the directional *-áa* AWAY in Maa encodes (also) some pluractional functions.

At the same time, we cannot say that this morpheme is a truly pluractional marker. In fact, it is important to note that its main function remains encoding a sort of motion ‘away’ from a deictic center.

However, it is not possible to just dismiss the ‘pluractional’ readings as idiosyncratic situations, despite their low frequency. Indeed, it is plausible to theorize that AWAY is changing or extending its functional domain also to situations that encode a plurality of actions (and participants). Fifteen occurrences of ‘pluractional’ meaning out of ninety-five tokens cannot be considered chance situations.

The question that now arises is why an andative marker should ‘shift’ its functional domain toward pluractionality. A possible explanation consists in assuming that this functional extension started from situations like the ones exemplified in (90) and (91) where the motion value is additionally accompanied by a sort of plural reading. Specifically, the presence of motion verbs could have led to a metaphorical ‘extension’ of the action previously through space (e.g., ‘going on a long path’) into time, then to a continuative<sup>36</sup> reading (‘do an action for a long time’) and finally also to functions more precisely pluractional, i.e., iterativity and frequentativity (‘do an action several times while on the way’). The final step of this probable ongoing functional shift of AWAY consists in the extension to functions that involve also a plurality of participants (‘do an action several times over several participants/an action done by several participants), that is, toward the vertical parameter (distributiveness) of the conceptual space.

This possible explanation of the functional change of the Maa morpheme *-áa* is especially supported by the fact that this marker appears mainly in situations in which: (i) the motion is connected with a plurality of situations or an extension of the action during time; (ii) a plurality of the participants is

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<sup>36</sup> Payne (2013) uses the term ‘continuous’ to refer to the function that in the present work is called ‘continuative’ (cf. Chapter 2).

involved; (iii) it can specifically encode a plurality of situations or participants (less frequent). A second piece of evidence is provided by the fact that this functional shift seems to be started from motion verbs. As the case of Akawaio and, particularly, of Beja have shown, we have noted that it seems to exist a relationship (or, at least, a co-occurrence) between motion verbs and plurality of situations. Though this connection seems obvious at first glance, it is not very common in the languages of the world (except for some geographical areas).

#### 4.3.4 Pluractionality in Maa

The situation of pluractional constructions in Maa is particularly intriguing. It has highlighted at least two issues that can be helpful also in cross-linguistic studies.

Firstly, the case of the verb ‘go’ is particularly useful to distinguish the two concepts of *suppletion* versus *stem alternation*, as defined by Mithun (1988) (cf. Chapter 3). This verb exhibits both a paradigmatic alternation between Non-subjunctive and Subjunctive stems (suppletion), and an alternation between an action performed by a singularity versus a plurality of participants that is controlled only by semantic factors (stem alternation).

Secondly, the andative marker *-áa* AWAY provides some strong evidence for a possible source of pluractional constructions. In the cross-linguistic analysis presented in previous chapters, possible correlation between pluractionality and motion did not arise. Nevertheless, it is undeniable that motion verbs tend to be those that more often are affected by this phenomenon and that in some languages (Maa, but also in some South American languages such as Kashibo-Kakataibo and Yagua) certain pluractional constructions (e.g. the Maa stem alternation, and the case of andative *-áa*) are strictly related to the concept of motion. This happens because usually atelic verbs (such as motion

ones) are semantically good candidates to be pluralized. In other words, these actional value makes a verb more easily subject to plura(ctiona)lization compared to other types of verb (e.g., ‘go around’ vs. ‘graduate’).

In conclusion, we can say that pluractionality in Maa is a dynamic phenomenon that perhaps used to be marked through some devices that nowadays are not high frequency, but at the same time it seems that a new strategy of marking such situations is rising: the andative marker *-áa* AWAY may be shifting its functional domain toward pluractional functions. Nevertheless, this development (or better functional shift) is in a preliminary stage and, now, we cannot predict in which direction it will go.

#### 4.4 What do these case studies tell us?

From the case studies presented in the previous sections, some important issues come out.

First of all, both the cross-linguistic investigation, i.e. the functional analysis and the morpho-syntactic description that were proposed in Chapter 2 and 3, were confirmed by the data of the case studies. This is certainly the most important result of the present chapter.

Then, it was shown that the situation of particular languages tends to be more complex and composite than one can expect. A consequence of this aspect consists in the necessity of improving our understanding of pluractionality through more language-specific investigations: more data and more descriptions we have at our disposal, broader the comprehension of these constructions will be complete.

Then, it was demonstrated once again that pluractional constructions represent a heterogeneous phenomenon both from a morpho-syntactic and a functional point of view. In fact, even though there are some similarities among the languages of the world according to this phenomenon, it is undeniable that the variation is extremely high. This aspect is particularly evident from the pluractional constructions found in the languages considered above.

At the same time, the data shown in this chapter have raised also a series of questions. First, it is essentially unclear how pluractionality can be conceived from a theoretical point of view. So far, the problem of the grammatical *status* of pluractional constructions was basically not discussed. It was evident that pluractionality shows several similarities and overlapping situations with other linguistic categories, such as grammatical aspect, lexical aspect or actionality, and also with nominal number. Nonetheless, it is not clear whether this phenomenon can be described as an expression of such pre-established linguistic categories, or whether this phenomenon represents

something different. This issue leads to some other theoretical questions that will be widely discussed in the next chapter.

## 5. Pluractional constructions in cross-linguistic perspective

This chapter discusses some issues related with pluractional constructions in cross-linguistic perspective.

In previous chapters, the main characteristics and peculiarities of pluractional constructions were described and explored. The most evident outcome is that pluractionality shows a large diversity in the languages of the world. Sometimes, this heterogeneity makes hard to understand all these constructions under a common label, that is, as occurrences of a single phenomenon, namely, pluractionality.

This situation generates some problems in the grammatical classification of these constructions. In fact, some different proposals on the categorization of pluractionality within the theory of grammar can be found in the literature. Sometimes, these proposals cannot co-exist, that is, they are incompatible.

The present chapter investigates these issues trying to find a possible explanation. First, we will summarize the reasons why pluractional constructions can be said cross-linguistically heterogeneous. Then, we will propose a new grammatical conceptualization of pluractionality.

## 5.1 Pluractionality as a heterogeneous phenomenon

The previous chapters have shown quite straightforwardly that pluractionality comprehends a large set of different constructions. This is particularly evident at the functional level, but also the formal one, i.e. the morpho-syntax, exemplifies this large diversity.

Chapter 2 has shown that pluractional constructions express a large set of functions. These functions were classified in two groups, that is, core and additional functions. While the number of functions of the former group is quite restricted (i.e., four functions: iterativity, frequentativity, distributivity, and participant plurality), the latter exhibits several values. Indeed, the additional group was furtherly sub-divided in different semantic clusters: non-prototypical plurality (event-internal plurality, continuativity, habituality, and generic imperfectivity), grade (intensity, completeness, and emphasis), and reciprocity.

Chapter 3 has singled out that the pluractional marking strategies seem to be limited only to three devices: affixation, reduplication, and stem alternation. Nevertheless, the case studies offered in Chapter 4 have revealed that such strategies co-exist in the same language and often cover the same functional domain (cf. section 4.2 on Beja). This co-presence of strategies with basically the same functions suggests that we are dealing with different constructions that however have a functional domain partly overlapped. This can happen also inside a single language.

Another interesting issue that clearly signals the great variety of pluractionality consists in the availability of such constructions within the lexicon. In some passages of previous chapters, we have briefly highlighted that pluractionality cannot be applied to all verbs of a language. For instance, this is mainly the case for the verb stems that alternate according to the number of situations and participants, namely, stem alternation. The languages of the world that exhibit this phenomenon have from one (more

often a couple) to ten (cf. Chapter 3, section 3.3), up to eighteen pairs (cf. Veselinova 2005:327). This means that stem alternation affects only a small set of the verbs of a language, and the number of verbs affected is sensibly different from language to language. In any case, often the verbs that alternate tend to be the most frequent ones (e.g. ‘to go’, ‘to die’, ‘to kill’, etc.).

This situation is not limited only to stem alternation, but it applies also to the other marking strategies, though in a different way. It is often the case that in specific languages pluractional markers are constrained for some verb classes. Often, these constraints are due to the incompatibility between the lexical semantics of the verb and the grammatical semantics of the pluractional morpheme. For example, in several languages stative verbs cannot be pluractionalized (this is the case of Beja, though not all stative verbs): the lexical meaning tends to be incompatible with the grammatical function of pluractional markers. Often, stative situations cannot be pluractionalized, mainly inherent and permanent states such as ‘to weigh’ or ‘to be extinct (of animals)’. Nevertheless, there are also languages in which these constraints do not exist: for example, in Koalib (Heiban, West-Central Heiban) all the verbs can be reduplicated to encode a pluractional function without any kind of constraint (Nicolas Quint p.c.).

Though this issue is extremely interesting, it is not completely unexpected. At the morphological level, in the languages of the world derivational devices (such as pluractional markers) show often this kind of constraints.

All the issues just mentioned and studied in detail in previous chapters draw a picture that shows how large the variety of pluractional constructions can be in the languages of the world. Furthermore, there are at least two additional topics that deserve to be discussed. In next sections, we will examine both.

### 5.1.1 Strategies of marking

Chapter 3 has illustrated the main strategies that the languages of the world adopt to express pluractional functions. These strategies are basically three: (i) affixation, (ii) reduplication, and (iii) stem alternation. However, this relatively small number of devices does not mean that they are the only ways available to encode pluractionality. Contrariwise, it is often the case that in a group of related languages or also in the same language several strategies co-exist at the same time.

For example, there are five Chadic languages in the sample adopted in this work. They are: Hausa, Lele, Masa, Mupun, and Wandala. Each of them shows a set of very different marking strategies.

Hausa (Afro-Asiatic, Chadic) expresses pluractionality through the partial (initial or internal<sup>37</sup>) reduplication (cf. respectively (1) and (2)) of the verb stem:

#### (1) Hausa (Afro-Asiatic, Chadic)

*Yuusùf*        *yaa*                *sàs~sàyi*        *littàttàfai*

Yusuf        3SG.M.PFV        RED~buy        books

‘Yusuf bought many (different) books’

(Součková 2011:94)

#### (2) Hausa (Afro-Asiatic, Chadic)

a.        *tafàsaa*        ‘boil’

*tafarfàsaa*    ‘boil’

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<sup>37</sup> The internal reduplication is quite rare and often underlines the internal or inherently plurality of a situation (cf. ex. (2a) and (2b)). This explains why the translation does not reveal any functional difference.

- b. *rikìtaa* 'confuse'  
*rikiřkìtaa* 'confuse'
- c. *hàifaa* 'give birth'  
*hàyàyyafàa* 'engender, proliferate'  
*hàhhaifàa* 'give birth many times or to many children'  
(Součková 2011:91)

In Lele (Afro-Asiatic, Chadic), two devices are used to convey a plurality of situations: the suffixation of *-wì* (cf. (3)), the devoicing of the initial consonant (cf. (4)), or both the strategies combined (cf. (5)).

(3) Lele (Afro-Asiatic, Chadic)

- a. *Cànìgé wàl kùlbá*  
Canige kill cow  
'Canige slaughtered a cow'  
(Frajzyngier 2001:126)
- b. *Cànìgé wàl-wì kùlb-é*  
Canige kill-PL cow-PL  
'Canige slaughtered cows'  
(Frajzyngier 2001:126)

(4) Lele (Afro-Asiatic, Chadic)

- a. *dìgrì dí gùmá*  
kill 3M rat  
'he killed a rat'  
(Frajzyngier 2001:124)
- b. *tigrí dí gòm-é*  
kill 3M rat-PL  
'he killed rats'  
(Frajzyngier 2001:125)

(5) Lele (Afro-Asiatic, Chadic)

- a.     *ŋ*     *bàá*  
      1SG   fall  
      ‘I fell’  
      (Frajzyngier 2001:125)
- b.     *ŋ*     *pad-wí*     *hírè*  
      1SG   fall-PL     often  
      ‘I fell often’  
      (Frajzyngier 2001:125)

Conversely, Mupun (Afro-Asiatic, Chadic) adopts a large set of suffixes (-*a*, -*r*, -*e*, -*ep*, -*wat*, -*k*) (cf. (6)) and the stem alternation (cf. (7)).

(6) Mupun (Afro-Asiatic, Chadic)

- a.     *pīin* ‘crack’     →     *piān* ‘crack many’  
      *pūt* ‘go’       →     *púát* ‘go out’  
      (Frajzyngier 1993:56)
- b.     *gáp* ‘cut’       →     *gráp* ‘cut pieces’  
      *séet* ‘buy/sell’ →     *srép* ‘buy/sell many things’  
      (Frajzyngier 1993:56)
- c.     *tù* ‘kill’       →     *tùé* ‘kill many’  
      *sù* ‘run away’ →     *sùé* ‘run away (pl.)’  
      (Frajzyngier 1993:56)
- d.     *mùut* ‘die’     →     *mùrép* ‘die (pl.)’  
      *pét* ‘call’     →     *prép* ‘call (pl.)’  
      (Frajzyngier 1993:57)
- e.     *siāŋ* ‘abort’     →     *sìwát* ‘abort (pl.)’  
      *war* *siaŋ/siwat* *aak*  
      3F.SG   cease/cease.PL pregnancy  
      ‘She underwent an abortion/had many abortions’

(Frajzyngier 1993:57)

- f. *yà* ‘catch’ → *yák* ‘catch (pl.)’  
*lòom* ‘be lost’ → *lihàm* ‘be lost (pl.)’

(Frajzyngier 1993:58)

(7) Mupun (Afro-Asiatic, Chadic)

SINGULAR		PLURAL	
<i>cīt</i>	→	<i>nás</i>	‘beat’
<i>dēn</i>	→	<i>lé</i>	‘put’
<i>tá</i>	→	<i>dǒŋ</i>	‘fall down’

(Frajzyngier 1993:58)

In Wandala (Afro-Asiatic, Chadic), all the main three strategies can be found: affixation of *-a-* (cf. (8)), (partial) reduplication (cf. (9)), and stem alternation (cf. (10)).

(8) Wandala (Afro-Asiatic, Chadic)

- a. *à* *vl-ù* *nàwè*  
3SG sell-VENT sheep  
‘he sold a sheep’

(Frajzyngier 2012:160)

- b. *à* *v-à-lù* *náwà*  
3SG sell:PL-VENT sheep:PL  
‘he sold sheep (pl)’

(Frajzyngier 2012:160)

(9) Wandala (Afro-Asiatic, Chadic)

- tà* *fà~fâ-nà* *tá* *zəŋw-àhà* *á* *wàya*  
3PL put~put-3SG T donkey-PL PRED yesterday  
‘They were putting it on donkeys yesterday’

(Frayzjngier 2012:164)

(10) Wandala (Afro-Asiatic, Chadic)

- a. *dùksá à bà blá*  
 thing 3SG FOC put  
 ‘the thing is put’

(Frayzjngier 2012:164)

- b. *dùks-áhà tá bà pwá*  
 thing-PL 3PL FOC put:PL  
 ‘the things are put/spread’

(Frayzjngier 2012:164)

Finally, Masa seems not to have a specific morphological strategy to express such type of functions (cf. Melis 1999).

Thus, the situation of Chadic languages can be summarized in Table 5.1.

Languages	Strategies of Marking			
	Affixation	Reduplication	Stem alternation	Others
Hausa	==	partial (initial/internal)	==	==
Lele	-wì	==	==	devoicing of initial consonant
Masa	NO PLURACTIONALITY			
Mupun	-a, -r, -e, -ep, -wat, -k	==	yes	==
Wandala	-a-	partial	yes	==

Table 5.1 – Pluractional marking strategies in Chadic languages.

What comes out undoubtedly from the situation of Chadic languages is that also in strictly related languages, and in the same language, can co-exist several different strategies to express pluractional functions. This is evidence of the fact that probably we are dealing with very different types of constructions.

In addition, this kind of situation is not limited only to the Chadic branch, but it is cross-linguistically widespread. The variety of possibilities exhibited by the languages of the world is remarkable.

### 5.1.2 Diachronic data and sources

A topic that we did not investigate in previous chapters is the diachrony of pluractional constructions. There is basically one reason for this lack: pluractionality is one of the most unrecognized and, consequently, understudied linguistic phenomena. This situation has led to the scarce existence of any kind of data concerning pluractional constructions. And, obviously, a lack of synchronic data leads consequently to an almost complete absence of diachronic data. In addition to this, it is often the case that we do not have any (or scarce) data on several languages of the world.

Diachronic data are extremely important for historical linguistics; they allow to describe the sources and the probable evolutions of specific constructions. At the same time, this kind of data has become pivotal also for typological linguistics. Indeed, several scholars have recently proposed to adopt an approach to linguistic explanation that takes into consideration also the diachronic path of a specific construction (cf. Cristofaro 2012, 2015 and Barðdal & Gildea 2015 among others). This is because the ‘history’ of a construction can tell us a lot about its synchronic status. Sometimes, synchronic explanations do not find support in diachrony (cf. Cristofaro

2012). In other words, it is possible to achieve typological explanations only through both a synchronic and a diachronic investigation.

Unfortunately, we do not have enough historical data for pluractional constructions that permit us to find some further explanations. Our considerations are basically all grounded on a cross-linguistic and synchronic comparison.

However, this does not mean that we could not find any kind of diachronic data. The few data found can be useful for our purposes as well. Specifically, pluractional sources provide strong evidence for the investigation on the categorial status of such constructions in cross-linguistic perspective.

We have found basically three different pluractional sources. They are: demonstratives, verbs of feelings, and locative or positional verbs.

In the next sections, each source found will be briefly illustrated.

#### 5.1.2.1 Demonstratives

Frajzyngier (1997) has demonstrated that the nominal and verbal number markers of Chadic languages have originated from demonstratives.

The number systems (both nominal and verbal) of Chadic languages are particularly complex. The most frequent marking strategies on nouns and verbs are affixation and reduplication, but sometimes also suppletion/stem alternation can be found. Frajzyngier (1997) focuses only on the discussion of the paths of grammaticalization of the affixes.

He notes that in several Chadic languages (fifteen out of thirty-five languages of his sample) the nominal number markers are identical to demonstratives (he means a large set of functions, such as deictic, anaphoric, determiner), and some other affixes show an interesting similarity. Though it is not the scope of this section to demonstrate such statement, we will briefly provide some examples used by Frajzyngier (1997) in his discussion.

In Hona (Chadic, Biu-Mandara) the plural marker *-yá* is identical to (a part of) proximate demonstrative, both singular and plural:

(11) Hona (Chadic, Biu-Mandara)

a. *kwàlàmbá* → *kwàlàmbá-yà* ‘bottle(s)’

b. *kwàlàmbá-dí-yà* ‘this bottle’

*kwàlàmbá-y-ní-yà* ‘these bottles’

(Frajzyngier 1997:204)

A similar situation is found in Podoko (Chadic, Biu-Mandara) where the nominal plural markers (*-ki*, *-kaki*) have a formative *-k-* that is also found in the anaphoric marker (cf. (12b)) and in the remote (or distal) demonstratives (cf. (12c)).

(12) Podoko (Chadic, Biu-Mandara)

a. *nawá* → *nawá-ki* ‘goat(s)’

*dəya* → *dəya-kaki* ‘bird(s)’

(Jarvis 1989:54)

b. *ndərə ká məná*

peanut ANAPH his

‘his peanuts’ (mentioned earlier)

(Jarvis 1989:54)

c. PROXIMATE REMOTE

*yma-nə* *yma-ká*

*yma-nə-nga* *yma-ká-nga*

(Jarvis 1989:58)

These identities or similarities make us suppose that they actually have a common origin, and specifically that nominal markers came from demonstratives (for the complete demonstration see Frajzyngier 1997).

Frajzyngier (1997) notes also that often pluractional affixes of Chadic languages are similar to nominal number markers, and, thus, to demonstratives (deictic, anaphoric, definite, etc. markers).

He provides some examples:

(13) Wandala (Chadic, Biu-Mandara)

- a.     *əhlá*            *lápikà*  
           cow            sick  
           ‘a sick cow’

(Frajzyngier 1997:218)

- b.     *əhlá-hà*        *lápikà(-hà)*  
           cow-PL        sick(-PL)  
           ‘sick cows’

(Frajzyngier 1997:218)

(14) Wandala (Chadic, Biu-Mandara)

- a.     *càcá*            *nàfá*  
           cut            tree  
           ‘He cut a tree.’

(Frajzyngier 1997:218)

- b.     *à-ccé-h*        *nàfá-hà*  
           3-cut-PL     tree-PL  
           ‘He will cut trees.’

(Frajzyngier 1997:218)

(15) Mafa (Chadic, Biu-Mandara)

PRONOUNS		MODIFIERS
<i>nana/nanay</i>	‘ceci, ce...ci’	<i>wuna/wunay</i>
<i>nata/natay</i>	‘celà (là bas)’	<i>sátá/sátáy</i>
		<i>wuta/wutay</i>

(Barreteau & le Bléis 1990:52)

(16) Mafa (Chadic, Biu-Mandara)

a. *dà sán*

‘He spends the night.’

b. *dà sánáy*

‘He spends the night habitually.’

(Tourneux 1995:174)

From the situation shown by the data, Frajzyngier (1997) proposes some possible chains of grammaticalization:

(i) DEMONSTRATIVE → OBJECT ANAPHOR → PLURAL OBJECT

(ii) DEMONSTRATIVE → OBJECT ANAPHOR → CATAPHORIC MARKER OF DETERMINED OBJECT → PLURAL OBJECT

(iii) DEMONSTRATIVE → OBJECT ANAPHOR → CATAPHORIC MARKER OF DETERMINED OBJECT → MARKER CODING DEFINITENESS OF THE OBJECT → PLURAL OBJECT

(iv) DEMONSTRATIVE → OBJECT ANAPHOR → PLURAL SUBJECT OF THE INTRANSITIVE VERB

(v) DEMONSTRATIVE → OBJECT ANAPHOR → PLURAL SUBJECT OF TRANSITIVE

(vi) DEMONSTRATIVE → OBJECT ANAPHOR → PLURAL SUBJECT OF TRANSITIVE → PLURALITY OF EVENTS

From these paths, it seems that the formation of pluractional affixes in Chadic languages began from demonstratives, and gave result to several different possibilities. These chains can be merged in a single one, but Frajzyngier (1997) notes that there is no evidence of a common evolution. Thus, it is better to maintain them separated.

We can see that demonstratives arrived to plurality of events first through the anaphoric or cataphoric step and then through the step of participant plurality. This last step can be summarized as follows: transitive object > intransitive subject > transitive subject. While the evolution from transitive object and intransitive subject seems to lie in the similarity of the semantic roles that these arguments tend to express (i.e., patient, though intransitive subject not as often as transitive object), the possible development from intransitive subject to transitive subject seem to lie in their syntactic position, i.e., they are both placed in the subject position (Chadic languages are nominative-accusative).

Though this proposal is very attractive, the proofs and evidence provided by Frajzyngier (1997) are not as strong as they should be to demonstrate such chains. His discussion is based only on the phonological identity and similarity of demonstratives with nominal number and pluractional markers. In addition, this kind of evidence is made less strong by the fact that the phonetic strings that compose these markers are very limited, i.e., they are represented by a single or a couple of phonetic elements.

This does not necessarily mean that the proposals of Frajzyngier (1997) are incorrect, but we must be aware that they are not certainly demonstrated. Consequently, we have to consider them only as hypotheses.

In any case, for our purposes, it is as well important that the sources of pluractional markers in Chadic languages may be demonstratives. This is because this possibility, compared to other possible sources (cf. next sections), shows us the large variety that these constructions have also at the diachronic level.

### 5.1.2.2 Verbs of feeling: love/like (or hate)

In the languages of the world, it is possible to find pluractional markers that seem to be evolved from verbs of feeling. For instance, this is the case of Eton (Atlantic-Congo, Volta-Congo).

In this language, pluractionality is expressed using the semi-auxiliary *dìŋ* (Van de Velde 2008:332). A typical pluractional construction in Eton requires the presence of at least three verbs: (i) a proper auxiliary that is the inflected form; (ii) the infinitive form of the quasi-auxiliary *dìŋ* that will give the pluractional reading; and, finally, (iii) the verb that will express the lexical value in the infinitive form.

(17) Eton (Atlantic-Congo, Volta-Congo)

<i>à-ŋgá-bé</i>	<i>L-dìŋ-Lgì</i>	<i>L-tìl</i>	<i>H</i>	<i>bò</i>	<i>káládà</i>
I-RM.PST-IPFV	INF-HAB-G	INF-write	LT	PL	letter

‘He usually wrote letters.’

(Van de Velde 2008:235)

(18) Eton (Atlantic-Congo, Volta-Congo)

<i>à-mé</i>	<i>L-dìŋ-gì</i>	<i>L-kózi</i>
I-YIMPF	INF-HAB-G	INF-cough

‘He coughed often.’

(Van de Velde 2008:332)

The verb *dìŋ* can be also used as an independent verb. Its lexical meaning is ‘to like/to love’.

(19) Eton (Atlantic-Congo, Volta-Congo)

*à-Lté L-bùl H L-dìŋ H k̀pèm*  
I-PRS INF-do.most LT INF-love LT [9]cassava.leaves

‘She likes cassava leaves a lot.’

(Van de Velde 2008:340)

(20) Eton (Atlantic-Congo, Volta-Congo)

*d̀à ù-Lté L-dìŋ H ndógà*  
Q 2SG-PRS INF-like LT [10]mango

‘Do you like mangoes?’

(Van de Velde 2008:326)

This double function, that is, the grammatical and lexical ones, can lead to an uncertain interpretation. For example, the sentence in (21) can have a double reading depending on the context.

(21) Eton (Atlantic-Congo, Volta-Congo)

*à-ŋgá-bé L-dìŋ-Lgì mà L-kùz*  
I-RM.PST-IPFV INF-like/HAB-G 1SG.NPPR INF-buy

*H bì-pági*

LT 8-PRESENT

‘He liked to buy me presents.’ or ‘He often bought me presents.’

(Van de Velde 2008:356)

This functional shift can be justified through a possible diachronic semantic path. Indeed, it is possible that the evolution of the lexical verb ‘to like’ to a quasi-auxiliary that expresses pluractional functions has originated in the following semantic context: “I like to do [SITUATION] and consequently I do it often”. In other words, if I like to do something (like walking, playing an instrument, dancing, singing, and so on), it is highly likely that I will try to

perform the same situation as often as possible. Thus, there is a connection between doing something several times and loving the same situation. This semantic path seems to be the most reasonable and that there are no other possible explanations to justify such shift from a lexical to a grammatical function.

However, there is a strong evidence that contradicts this development: in the Southern variety of Eton, another verb covers the same grammatical functions (i.e., pluractional) of *dìŋ*; this verb has an opposite lexical meaning, that is, ‘to hate’ (Mark Van de Velde p.c.). This situation challenges the explanation found for *dìŋ*. Unfortunately, the scarce number of data does not allow us to find some other diachronic paths. Therefore, some deeper works and analyses are needed.

#### 5.1.2.3 Locative or positional verbs: sit/stay

Another possible source of pluractional markers found in the languages of the world can be locative or positional verbs.

By locative or positional verbs, we mean verbs that express static position or location rather than motion or direction. For example, verbs like ‘to stay’, ‘to be (in/at)’, ‘to sit’, ‘to dwell’, etc.

In some languages of the world, this type of verbs can grammaticalize and then they can become pluractional markers.

For instance, in Lango (Nilotic, Western Nilotic) the verb *bèdò* ‘to sit/to stay’ can be used as an auxiliary to express pluractional functions, mainly iterativity/frequentativity.

(22) Lango (Nilotic, Western Nilotic)

*à-bédò*                      *lwòŋ-ŋò*              *lócàà*

1SG.SBJ-stay.PFV      call-INF              man

‘I kept on calling the man’

(Noonan 1992:140)

(23) Lango (Nilotic, Western Nilotic)

*àpwò*   *gínní*   *kwàc*   *ònwòŋò*              *òbèdò*              *òwótê*

H.      with      L.      3SBJ-find-PFV      3S-stay-PFV      friends

‘Hare and Leopard were friends’

(Noonan 1992:163)

A similar situation can be found also in Khwe (Khoe, West Kxoe). In this language, the morpheme *-t(i)-* can express pluractional functions.

(24) Khwe (Khoe-Kwadi, Khoe)

*tí*      *à*              *bε-ε-xú-t-a-tè!*

1SG      OBJ      be.too.heavy-II-COMPL-FREQ-I-PRS

‘It is often too heavy for me!’

(Kilian-Hatz 2008:146)

(25) Khwe (Khoe, West Kxoe)

*á*      *càá-hè*              *tí*      *kx’áà-ca*              *hĩ*      *nò*      *càá*      *à*

DEM      water-3SG.F      1SG      drink-VOL              do              when      water      OBJ

*tì*      *à*              *kwéε-ka-ti-ta-tè.*

1SG      OBJ      refuse-CAUS-FREQ-FREQ-I-PRES

‘When I want to drink water, (my friends) very often refuse me this water.’

(Kilian-Hatz 2008:146)

Kilian-Hatz (2008) notes that the source of this morpheme is not completely clear. In any case, she singles out some very interesting considerations that lead to consider the verb ‘to stay’ as the starting point for this marker.

“The origin of this suffix is unclear, but it is noteworthy to add that Khwe has an adverb, *tĩ* ('often'), which is placed clause initially, and two other adverbs, *-tĩ-tá* and *-tĩ-yá* ('often'), which are most likely frozen finite verb forms of the verb *tĩĩ* ('stay').”

(Kilian-Hatz 2008:146)

In this case, the evolution of the verb ‘to stay’ seems to have followed a slightly different path: from the lexical verb to the pluractional marker, through the adverb ‘often’.

Heine (1993:45-48) notes that often locative/positional verbs can evolve in markers of plurality. They tend to become more easily continuative/continuous markers, but also iterative and frequentative ones. This diachronic evolution can be explained through the coherent connection of staying in a specific place for a long time (i.e., the positional value) and doing something in that place for a long time (i.e., continuativity). Then, the evolution from a situation performed for an extended period (continuativity) to a situation performed several times (iterativity/frequentativity) is attested. We have seen this connection also in the present work (cf. the pluractional conceptual space in Chapter 2).

#### 5.1.2.4 Pluractional markers as sources for other constructions

Finally, another interesting situation deserves to be mentioned. In some languages of the world, pluractional markers can be the source for other types of markers.

For example, this is the case of some North American languages in which verbal number markers gave rise to nominal number markers.

In the languages of Native North America, often pluractional markers tend to encode a function that is slightly different from the more prototypical of plurality of situations. They “distributes actions over time, space, or participants” (Mithun 1988:228). In other words, they express firstly a distribution of situations that consequently involves also a plurality of situations.

For example, in Cayuga (Iroquoian, Northern Iroquoian) when the pluractional/distributive marker is applied to verb, the result is the one shown in what follows:

(26) Cayuga (Iroquoian, Northern Iroquoian)

*ɛhsyɛ:tho*<sup>?</sup>                    ‘you will plant’  
*ɛhsyɛthwahso;*<sup>?</sup>            ‘you will plant a lot of different things’

(Mithun 1988:228)

These markers can be applied also to other lexical categories, such as nominals. In this case, they retain a sort of distributive reading, but their semantic values can be also extended to other meanings that sometimes imply plurality of entities.

(27) Cayuga (Iroquoian, Northern Iroquoian)

a.     *kanyo:*<sup>?</sup>                            ‘wild animal’  
       *kanyo<sup>?</sup>sho:<sup>?</sup>ɔh*                    ‘game’

(Mithun 1988:228)

b.     *enɔhsɔnyá<sup>?</sup>stha<sup>?</sup>*                    ‘one builds houses with it, tool’  
       *enɔhsɔnyá<sup>?</sup>stha<sup>?</sup>sho:<sup>?</sup>ɔh*            ‘house building tools’

(Mithun 1988:228)

- c.     *eksá:ʔah*                     ‘child, girl’  
           *kaeksʔashó:ʔoh*           ‘children’  
           (Mithun 1988:229)
- d.     *hakéhtsih*                   ‘old man’  
           *haekéhtsihshóʔ*           ‘old people’  
           (Mithun 1988:229)

This extension of the use of markers that express pluractional/distributive meanings to expression of plurality of entities (i.e., nominal number) can be explained through the semantic/functional connection between these notions (distribution and plurality). Mithun (1988:232) notes that: “[d]istributive markers retain a distributive meaning, serving to emphasize the distribution or separateness of entities referred to nouns”. In other words, the functional shift moves from the distribution of actions to the distribution over different individual entities because “human beings are often considered inherently individualistic and differentiated” (Mithun 1988:228). Thus, the evolution of these markers toward a plurality of entities seems to have followed a specific path: DISTRIBUTION > INDIVIDUALITY > PLURALITY. The distribution over different participants highlights their individuality (i.e., the fact that they are separate entities), and, thus, their individuality makes them conceived as a group of single entities, that is, a plurality.

## 5.2 The categorial status of pluractional constructions

The descriptions offered in chapters 2, 3 and 4, and the additional issues presented in previous sections of this chapter have undoubtedly shown that cross-linguistically pluractional constructions are very heterogeneous. This situation can create some problem in reaching a grammatical categorization of such constructions.

Even though pluractionality is a phenomenon scarcely studied, the literature provides a relatively high number of proposals concerning its categorial classification.

In the introduction (Chapter 1), we have singled out that Dressler (1968) and Cusic (1981) describe this phenomenon as an instance of actionality (lexical aspect/Aktionsart). On the other hand, Corbett (2000) has a double hypothesis: an independent phenomenon and/or a value of verbal aspect. He suggests three reasons why verbal number (i.e., pluractionality) must be considered in a monograph on number though it seems to be an instance of verbal aspect:

“Why then should event number be considered here at all if it may be a type of verbal aspect? First because it is worth noting the parallelism between number for the noun (number of entities) and aspect for the verb (number of events). Second, because the way in which number of this type is marked on the verb may also serve other purposes, which may be harder to distinguish from other types of number, in particular it may mark verbal number of the participant type [...]. And third, because for certain language families there is a tradition of using the term ‘plural verb’ in such instances and so this usage should be discussed.”

(Corbett 2000:247)

From this passage, we can see that the position of Corbett is not completely clear. The first consideration seems to affirm that verbal number is an actual value of grammatical aspect that, however, shows some interesting parallelisms with nominal number. In truth, this is right only for some languages of the world and, therefore, it cannot be easily generalized and extended to all situations. The third consideration is completely inconsistent. The terminology adopted in specific tradition is very often misleading and it

is strictly related to the convention of the particular linguistic traditions. Consequently, it cannot be used as a reliable element for a typological analysis. The second consideration is interesting. The very large functional domain that pluractional constructions cover in the languages of the world covers a set of different values: some of them are generally considered aspectual values (iterativity, frequentativity), but others, mainly participant plurality, are hardly described under the notion of aspect.

The picture drawn by Corbett (2000) is not straightforward. He seems to state first that verbal number is an actual case of aspect, then he notes (though not overtly) that however participant plurality makes hardly adoptable this view, and, finally, he adds the following sentence: “However, ‘event number’ may reasonably be taken as a type of verbal aspect” (Corbett 2000:247).

The situation found in the literature is not clear.

The conceptualization of pluractional constructions in cross-linguistic perspective that we are going to propose is completely different.

In previous chapters, we have noted that pluractionality shows a large variety in the languages of the world. Though this is a consideration that affects every cross-linguistic investigation, it seems that for pluractional constructions this fits particularly well. Such diversity concerns almost all the characteristics and issues described so far. Consequently, we believe that a completely new conceptualization is needed.

Even though the proposals of scholars are not satisfactory, they do not seem to be totally wrong. Each of them actually catches some important properties of pluractionality, but at the same time without explaining the whole picture. Then, an additional problem lies in the fact that these explanations cannot be extended and applied to all the languages.

In this sense, the apparent confusion of Corbett (2000) highlights this composite situation and leads to a unique solution. Pluractional constructions are very different from language to language, that is, they have different grammatical status in different languages. This means that cross-

linguistically we cannot describe pluractionality through a pre-established linguistic category (such as aspect, or actionality) because pluractional constructions can be actualized through different categories in different languages. Indeed, pluractionality can be: (i) an instance of grammatical aspect if in the specific language it expresses iterativity/frequentativity and some other more aspectual functions, and if the markers actually belongs to the aspectual system of the language; (ii) an independent category in other languages, such as languages like Beja; and (iii) an instance of actionality in some others, as suggested by Dressler (1968), Cusic (1981), and Xrakovskij (1997a).

This situation has led to the difficulties that we have seen in the literature when a scholar tried to describe pluractional constructions adopting a fixed and pre-established grammatical category.

In conclusion, we can say that cross-linguistically we cannot categorize pluractional constructions *a priori*, but we can recognize them only through the functional and the formal characteristics described in the previous chapters trying to avoid a simplistic grammatical classification.

### 5.3 The language- and construction-specificity of pluractionality

The new conceptualization of pluractionality proposed in previous section finds an important support in the functional-typological approach to the study of language.

In the last two decades, a new model based on the cross-linguistic comparison has arisen in the literature. The dissatisfaction of some scholars (Dryer 1997; Croft 2001, 2003; Haspelmath 2007; and Cristofaro 2009) for some kinds of typological generalizations, that were considered to be made too easily (i.e., without strong cross-linguistic evidence), led to the origin of the so-called Radical Construction Grammar approach (cf. Croft 2001).

This approach is 'radical' in the sense that breaks the traditional conceptualization of grammatical relations and categories. Croft (2001) focusses on syntactic theory, but this approach can be extended to all linguistic levels. In Croft's view, constructions are "primitive units of syntactic representation" (Croft 2001:46) and "consist of pairings of form and meaning that are at least partially arbitrary [...]. Thus constructions are fundamentally SYMBOLIC units" (Croft 2001:18), "the internal structure of a construction is the morphosyntactic structure of the sentences that instantiate constructions" (Croft 2001:20).

As already mentioned, the theory of language proposed by Croft (2001) has its own basis in the cross-linguistic comparison. In other words, only comparing a high number of languages of the world, we can say something that can be assumed to be universally valid.

Usually, linguist investigates phenomena in the languages of world referring to them as 'linguistic categories'. However, each cross-linguistic investigation reveals that the reality is more complex and varied than one can expect. The question that consequently arises is: are we actually comparing the same kind of constructions? The situation shown by pluractional constructions (and several other typological works) proves clearly that we are not necessarily dealing with the same kinds of constructions, namely, with a universally valid category.

In linguistics, categories are generally defined as "a class of elements that display at least partially overlapping grammatical properties" (Cristofaro 2009:441). It is undeniable that the members of a specific linguistic category share a set of common properties because, contrariwise, talking about category would be completely inconsistent. However, these common properties do not make necessarily two constructions part of the same category. Indeed, very often constructions that are claimed to belong to the same linguistic category show also extensive differences (also inside the same language).

Haspelmath (2007) notes that:

“it is important to realize that similarities do not imply identity: It is very hard to find categories that have fully identical properties in two languages, unless these languages are very closely related. [...] [O]ne has to start with the awareness that each language may have totally new categories”

(Haspelmath 2007:126)

Often, linguists focus their attention only on similarities giving no importance to the differences. The case of pluractionality has revealed that also constructions that are considered members of the same category can have different grammatical status in different languages. However, we have seen that also languages that are strictly related sometimes can show important differences regarding the same kind of constructions (cf. the case of Chadic languages in section 5.1.1).

Therefore, we cannot consider linguistic categories universally valid because in the majority of cases they do not have the same grammatical status and, in addition, their members do not show the same set of characteristics.

The validity of linguistic categories seems to be limited only at the intra-linguistic level, that is, for single languages.

Nay, this approach can be furtherly extended also to the most basic element of a language, namely, constructions.

“I propose that we discard the assumption that syntactic structures are made up of atomic primitives (language-universal or language-particular). CONSTRUCTIONS, NOT CATEGORIES AND RELATIONS, ARE THE BASIC, PRIMITIVE UNITS OF SYNTACTIC REPRESENTATION. The categories and relations found in

constructions are derivative – just as the distributional method implies. This is Radical Construction Grammar.”  
(Croft 2001:45-46)

Thus, categories are surely valid only at construction or language level. In other words, cross-linguistically linguistic categories are better explained only as language- and construction-specific (Cristofaro 2009).

However, “this does not mean [...] that grammatical relations [and constructions] will be entirely incommensurable across languages” (Cristofaro 2009:469). We should conceive linguistic categories (such as aspect, number, gender, pluractionality, etc.) only as classificatory labels that are useful for linguists in order to group together a set of different constructions that share a specific semantic, pragmatic, or functional value (cf. ‘substance’ in Haspelmath 2007).

Haspelmath (2007) argues that:

“The most important consequence of the non-existence of pre-established categories for language typology is that cross-linguistic comparison cannot be category-based, but must be substance-based, because substance (unlike categories) is universal. In phonology, this means that comparison must be phonetically based; in morphosyntax, it means that comparison must be semantically based.”

(Haspelmath 2007:124)

In other words, linguists, and specifically typologists, must be aware that what they are comparing is something that is actually different. And using the same label for these different constructions is helpful only as a cover term. This term permits to group them together for convenience.

In this sense, we can now affirm an important statement: cross-linguistically, pluractionality is a classificatory label that group together a set of different constructions that share the common function of expressing a plurality of situations.

#### 5.4 The relationship between pluractionality and other types of constructions

The situation of pluractional constructions becomes clear only adopting the theory proposed in previous section that basically follows the Radical Construction Grammar. Thus, it becomes clear why the categorial proposals on pluractionality seemed to be inadequate to describe such complex phenomenon, but also why they could catch some important properties too. Pluractional constructions are actually described as aspectual values in several languages. For example, one of the most important and famous definition of aspect is the cross-linguistic one provided by Comrie (1976):

“As the general definition of aspect, we may take the formulation that ‘aspects are different ways of viewing the internal temporal constituency of a situation’”

(Comrie 1976:3)

If we consider this definition, then, it will be evident that some of the functions (both core and additional ones) displayed on the conceptual space proposed in Chapter 2 can be expressed through values that can be described as aspectual (iterativity, frequentativity, habituality, generic imperfectivity, continuativity). Then, though these functions can be described as verbal aspect according to the definition of Comrie (1976), it does not necessarily mean that they are actually expressed through formal aspectual values in

every language. For instance, this is the case of pluractional construction in Akawaio (Cariban, Venezuelan) in which the morpheme *-pödi* semantically covers some ‘aspectual functions’; but at the formal level of the single language, the pluractional marker cannot be conceived as belonging to the aspectual system (that expresses values such as the progressive *-bȫk*, cf. Section 4.1).

In several other languages, pluractionality seems to constitute an independent category. This is the case of Beja and several other Cushitic languages in which these constructions are quite productive and they cover a specific functional domain.

For some other languages, it is possible to theorize that pluractionality belongs to a wider category that we can call ‘number’ that is trans-categorical because affects different lexical categories (such as nouns and verbs) and that expresses a distinction between singularity and plurality (of entities or situations).

In conclusion, this discourse can be applied to several different categories. The central issue, that must be remembered, is that we can discuss on the relationships between pluractional constructions and other types of constructions only actualizing them to specific situations. In other words, only referring to specific situations, it is possible to talk about grammatical categories. This is because in cross-linguistic perspective do not exist nor a valid category ‘pluractionality’, neither, more generally, grammatical categories.

## 6. Conclusions

The goals of the present work singled out in the introduction consisted in providing an preliminary typological account of the phenomenon known as pluractionality in the languages of the world.

After having defined pluractionality in the introduction (Chapter 1), in Chapter 2 we have deeply analyzed the possible functions that pluractional constructions can encode in the languages of the world. Then, we tried to provide an innovative interpretation of the data adopting the Semantic Map model. In this way, we could dispose all the most recurrent functions (both core and additional) on a ‘geometrical’ space (cf. Haspelmath 2003:213). This organization allowed us to investigate the semantic relationships that exist among them. Thus, we have proposed aslo a possible explanation of the connections shown on the conceptual space. Additionally, we singled out some interesting correlations that the space reveals.

In Chapter 3, we have described the main morpho-syntactic characteristics of pluractional constructions. In the languages of the world, the most common marking strategies are: affixation, reduplication, and stem alternation. However, it is possible to find several other strategies that are not as frequent as the three just mentioned. The most interesting element is that the languages of the world have more than one device to express pluractional functions, and often they show more than two strategies. Then, we have discussed some issues associated with these strategies. Specifically, we have explored some criteria that permit to distinguish a real grammatical reduplication from a

‘textual’ repetition. We have discussed whether it is possible to describe stem alternation as an instance of suppletion, or if it is better to separate these two concepts. Finally, we have considered some evidence on why participant plurality (semantic selection) is actually something different from nominal number (syntactic agreement).

In Chapter 4, we have presented three case studies on different languages, namely, Akawaio (Cariban, Venezuelan), Beja (Afro-Asiatic, Cushitic), and Maa (Nilotic, Eastern Nilotic). These analyses have revealed some very interesting elements. First, we tested the outcomes of the Chapters 2 and 3 based on the cross-linguistic comparison. Second, we have noted that pluractional constructions ‘behave’ in very different ways, and they can have very different grammatical status in different languages.

This is the most important result for the theoretical account proposed in Chapter 5. Indeed, we have shown the possible problems and misunderstandings that can arise from such a complex situation. In the literature, we have found several grammatical proposals that are unsatisfactory, or better, that do not catch and explain the whole corpus of phenomena connected with pluractionality. Consequently, a completely new conceptualization on pluractional constructions was needed. Thus, we have proposed a new way to look at pluractional constructions, i.e., at cross-linguistic level we must consider them as a set of different constructions that do not belong to a common grammatical category, but that share a functional, semantic, and/or pragmatic value, namely, the function of encoding a plurality of situations. This conceptualization leads to the fact that pluractional constructions have different grammatical status in different languages, that is, they can be actualized by different language-specific categories.

This proposal finds a strong confirmation in the general typological literature, and more specifically in the Radical Construction Grammar proposed by Croft (2001) within the functional-typological perspective. This theory

conceives grammatical categories and relations as language- and construction-specific rather than universal instances.

Our work is the first large scale typological analysis of pluractionality and, consequently, several new ideas were proposed. However, the research on this topic, that is at the same time both extremely interesting and under-described, cannot be considered concluded. There are several other aspects and issues that deserve to be investigated. For example, we need more fine-grained studies in order to explore how pluractionality works in single languages. The data on which we worked on are too limited to conduct a more precise work, and to discover some new issues that can contribute to both the particular and the general linguistic theory.

We need more specific and detailed works on pluractionality also to explore which kind of verbs can be pluractionalized, and, thus, to examine the relationships that exist between pluractional constructions and actionality. This aspect does not come out from our investigation mainly because the scarce number of occurrences found cross-linguistically.

Moreover, we need more diachronic studies. This kind of work can permit us to better understand and explain the issues tackled in this work. We are aware that, unfortunately, this kind of investigation is extremely difficult to achieve due to the limited number of data, but we believe that it is possible to reach some better results with the (few) diachronic data that we have at our disposal. Finally, there is another important research direction that crosses crossing the boundaries of linguistics and that concerns other scientific fields. In particular, the situation of pluractional constructions (and several other cross-linguistic phenomena) and their linguistic categorization deserves to be deeply investigated from a cognitive, psychological, and neurological point of view. Several questions arise from the consequences of Radical Construction Grammar. Specifically, it could be interesting to investigate whether there are basic cognitive concepts that make some linguistic phenomena ‘more necessary’ than others. It seems not to be casual that such

kind of phenomena are globally so widespread, but they are expressed in such different ways. In other words: why are pluractional constructions (and several other types of constructions) present almost everywhere but conceived so differently? Are they founded on any kind of cognitive/psychological/neurological bases? On this matter, the role of linguistics is pivotal: we have to examine more deeply the cognitive and psychological status of conceptual spaces, that is, to examine whether they must be actually considered as a direct expression of the human mental representation of knowledge or 'just' as a tool that is extremely useful to describe and explain linguistic phenomena, but that does not have other cognitive correlations.

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## Appendix: Language sample.<sup>38</sup>

Classification		Languages	Reference
Abkhaz-Adyge	Abkhaz-Abaza	Abkhaz	Hewitt (1979), Chiribka (2003)
Afro-Asiatic	Berber	Tamasheq	Heath (2005)
	Chadic	Hausa	Newman (2000), Jaggar (2001), Součková (2011)
		Lele	Frajzyngier (2001)
		Masa	Melis (1999)
		Mupun	Frajzyngier (1993)
		Wandala	Frajzyngier (2012)
		Cushitic	Beja
	Eastern Oromo		Owens (1985)
	Iraqw		Mous (1992)
	Omotic	Dime	Mulugeta (2008)
		Wolaytta	Lamberti & Sottile (1997)
	Semitic	Amharic	Leslau (1995)
		Arabic (Egyptian)	Abdel-Massih, Abdel-Malek &

<sup>38</sup> The classification follows the one proposed by Hammarström et al. (2016), while the names of the languages follow the terms of the bibliographic references.

			Badawi (1981)
		Hebrew	Glinert (1989), Coffin & Bolozky (2005)
		Maltese	Vanhove (2001)
Algic	Yurok		Wood (2007)
	Algonquian	Malecite- Passamaquoddy	Sherwood (1986)
		Plains Cree	Wolfart (1969), Dahlstrom (1986), Cook (2008)
Angan	Nuclear Angan	Hamtai	Oates & Oates (1968)
Araucanian	Mapudungun		Zúniga (2000), Smeets (2008)
Arawakan	Southern Maipuran	Apuriña	Facundes (2000)
	Northern Maipuran	Warekena	Aikhenvald (1998)
Arawan	Madi-Madiha	Jarawara (Jamamadi)	Dixon (2004)
Athapaskan- Eyak-Tlingit	Tlingit		Naish (1979), Story (1979), Leer (1991)
	Athapaskan	Hupa	Golla (1970, 1996)
		Navajo	Young & Morgan (1987), Young & Morgan (1992), Young (2000)
		Sarcee	Cook (1984)
		Slave	Rice (1989)
Atlantic-Congo	North-Central	Bijogo	Seeger (2002)

	Atlantic		
		Wolof	Church (1981), Djalo (1981), Fal (1999), Diouf (2009)
	Volta-Congo	Eton	Van de Velde (2008)
		Ewe	Rongier (1979), Ameka (1991), Pasch (1995), Duthie (1996)
		Godié	Godé (2008)
		Ha	Harjula (2004)
		Igbo (Nuclear)	Onomajuru (1985)
		Kisikongo	Mfuwa (1995)
		Koromfé	Renninson (1997)
		Lunda	Boniface (2003)
		Makonde	Kraal (2005)
		Mambay	Anonby (2008, 2011)
		Mono	Kamanda Kola (2003)
		Sango	Diki-Kidiri (1977), Morrill (1997)
		Supyire Senoufo	Carlson (1994)
	Swahili	Myachina (1981)	
	Yoruba	Bamgbose (1966)	
Austro-Asiatic	Aslian	Semelai	Kruspe (1999, 2004)
	Khasi-Palaung	Khasi	Nagaraja (1985)
	Khmeric	Cambodian	Haiman (2011)

		(Central Khmer)	
	Khmuic	Khmu	Lachler (2005)
	Mundaic	Mundari	Cook (1965), Osada (1992)
	Vietic	Vietnamese	Thompson (1984- 1985)
(Nuclear) Austronesian	Malayo- Polynesian	Batak Karo	Woollams (1996)
		Chamorro	Topping (1973)
		D(r)ehu	Tryon (1967)
		Fijian	Dixon (1988)
		Gilberetese/Kiribati	Groves, Groves & Jacobs (1985)
		Indonesian	Sneddon, Adelaar, Djenar, Ewing (2010)
		Kilivila	Senft (1986)
		Malagasy	Thomas-Fattier (1982)
		Maori	Bauer (1993)
		Mokilese	Harrison (1976)
		Paamese	Crowley (1982)
		Paiwan	Chang (2006)
		Rapanui	Du Feu (1996)
		Samoan	Mosel & Hovdhaugen (1992)
		Taba	Bowden (2001)
Tagalog	Schachter & Otanés (1972)		
Aymaran	Nuclear Aymara	Aymara	Hardman (2001)
Barbacoan		Awa Pit	Curnow (1997)

Border	Warisic	Imonda	Seiler (1985)
Bunaban	Bunuba		Rumsey (2000)
	Gooniyandi		MacGregor (1990)
Caddoan	Caddo		Melnar (2004)
	Northern Caddoan	Wichita	Rood (1976, 1996)
Cariban	Guianan	Galibi Carib	Courtz (2008)
	Parukotoan	Hixkaryana	Derbyshire (1979)
	Venezuelan	Macushi	Abbott (1991)
		Panare	Payne & Payne (2013)
Central Sudanic	Lenduic	Ngiti	Kutsch Lojenga (1994)
	Sara-Bongo- Bagirmi	Mbay	Keegan (1997)
Chapacuran	Moreic-Waric	Wari'	Everett & Ken (1997)
Chibchan	Core-Chibchan	Bribri	Constenla Umaña & Margery Peña (1979)
		Ika (Arhuaco)	Frank (1985)
Chonan	Insular Chonan	Selknam (Ona)	Najlis (1973)
Chukotko- Kamchatkan	Chukotian	Chukchi	Dunn (1999)
Cochimi- Yuman	Yuman	Maricopa	Gordon (1986)
Coosan	Coos		Whereat (1996)
Dagan	Daga		Murane (1974)
Dogon	Plains Dogon	Jamsay	Heath (2008)
Dravidian	North Dravidian	Brahui	Andronov (1980, 2001)
	South Dravidian	Kannada	Schiffman (1983)

Eskimo-Aleut	Eskimo	Central Alaskan Yupik	Miyaoka (2012)
		West Greenlandic	Fortescue (1984)
East Bird's Head	Meax	Meyah	Gravelle (2011)
Furan		Fur	Jakobi (1990)
Gunwinyguan	Gunwinyguan	Nunggubuyu	Heath (1984)
Heiban	West-Central Heiban	Koalib	(Nicolas Quint p.c.)
Hmong-Mien	Hmongic	Hmong-Njua	Kunyot (1984), Harriehausen (1990)
Huitotoan	Nuclear Witoto	Huitoto (Minica)	Minor, Minor & Levinsohn (1982)
Indo-European	Armenian	Armenian	Dum-Tragut (2009)
	Baltic	Latvian	Kalnača (2014)
	Celtic	Irish	Mac Congáil (2004)
	Germanic	German (Standard)	Dodd, Eckhard- Black, Klapper & Whittle (2003)
		English (Standard, UK)	Dixon (2005)
	Creole (English)	Ndyuka	Huttar & Huttar (1994)
	Greek	Greek (Modern)	Mackridge (1987), Holton, Mackridge & Philippaki- Warburton (1997)
	Indo-Aryan	Bengali	Thompson (2012)

		Hindi	Kachru (2006)
	Iranian	Pashto	Tegey & Robson (1996), Babrakzai (1999)
		Western Farsi (Persian)	Mahootian (1997)
	Romance	French (standard)	Batchelor & Chebli-Saadi (2011)
		Spanish (standard)	Butt & Benjamin (1994)
	Slavic	Russian	Wade (1992)
		Serbian	Snjezana (1997), Browne & Alt (2004), Hammond (2005)
Iroquoian	Mohawk-Oneida	Oneida	Lounsbury (1953)
	Northern Iroquoian	Seneca	Chafe (2015)
Iwaidjan Proper		Maung	Capell & Hinch (1970)
Japonic	Japanese	Japanese (Nuclear)	Shibatani (1990), Iwasaki (2013)
Kartvelian	Georgian-Zan	Georgian	Hewitt (1995)
Kadugli-Krongo	Central-Western Kadugli-Krongo	Krongo	Reh (1985)
Katla-Tima		Tima	Alamin (2012)
Kawasqar	North Central Alacufan	Qawasqar	Clairis (1985)
Keresan	Western Keres	Acoma	Miller (1965)
Khoe-Kwadi	Khoe	Khwe (Kxoe)	Kilian-Hatz (2008)
Kiowa-Tanoan		Kiowa	Watkins (1984)

Koreanic	Korean		Sohn (1999)
Lower Sepik-Ramu	Lower Sepik	Yimas	Foley (1991)
Maban	Mabang	Masalit	Edgar (1989)
Mande	Eastern Mande	Beng	Paperno (2014)
	Western Mande	Jalonké	Lüpke (2005)
Mangarrayi-Maran	Mangarrayi		Heath (1981)
	Maran	Mara	Merlan (1989)
Matacoan	Mataguayo II	Wichí (Lhamtés Güisnay)	Terraza (2009)
Mayan	Core Mayan	Jacaltec	Day (1973)
Miwok-Costanoan	Miwok-Costanoan	Miwok	Callaghan (1963)
Mixe-Zoque	Zoque	Zoque Chimalapa	Johnson (2000)
Mongolic	Eastern Mongolic	Khalkha (Mongolian)	Poppe (1954), Ujijediin (1998)
Muskogean	Creek		Hardy (2005)
	Alabaman-Koasati	Koasati	Kimball (1991)
	Western Muskogean	Chickasaw	Munro (2005)
Nakh-Daghestanian	Daghestanian	Dargwa	Sumbatova & Mutalov (2003)
		Hunzib	Van den Berg (1995)
		Lezgian	Haspelmath (1993)
	Nakh	Ingush	Nichols (2011)
Nilotic	Eastern Nilotic	Turkana	Dimmendaal (1983)
	Western Nilotic	Lango	Noonan (1992)
		Sango	Diki-Kidiri

			(1977), Morrill (1997)
Nuclear Macro-Je	Je	Canela-Krahô	Popjes & Popjes (1986)
Nuclear Torricelli	Kombio-Arapesh-Urat	Bukiyip (Arapesh Mountain)	Conrad & Wogiga (1991)
Nuclear Trans New Guinea	Central and South New Guinea	Asmat (Tamnim Citak)	Voorhoeve (1965)
	Dani	Western Dani	Barclay (2008)
	Enga-Kewa-Huli	Kewa	Franklin (1971), Yaraepa (2006)
	Greater Binanderean	Suena	Wilson (1974), Loving (1976)
	Madang	Amele	Roberts (1987)
		Kobon	Davies (1981)
		Usan	Reesink (1987)
Mek	Una	Louwerse (1988)	
Otomanguean	Eastern Otomanguean	Chalcatongo Mixtec	Macaulay (1996)
	Western Otomanguean	Otomi (Mezquital)	Priego Montfort de Mostaghimi (1989)
Pama-Nyungan	Desert Nyungic	Pitjantjatjara	Bowe (1990)
	Karnic	Arabana	Hercus (1994)
	Paman	Kugu Nganhcara	Smith & Johnson (2000)
	South-Eastern Pama-Nyungan	Ngiyambaa	Donaldson (1977)
	South-West Pama-Nyungan	Martuthunira	Dench (1994)
	Yimidhirr-Yalanji-Yidinic	Djabugay	Patz (1991)

		Yidiny	Dixon (1977)
	Yuulngu	Djapu	Morphy (1983)
Panoan	Mainline Panoan	Shipibo-Konibo	Valenzuela (1997, 2003)
Peba-Yagua		Yagua	Payne (1985), Payne & Payne (1990)
Pomoan	Russian River and Eastern	Eastern Pomo	McLendon (1975, 1996)
Quechuan	Quechuan I	Huallaga Huanuco Quechua	Weber (1989)
Sahaptian		Nez Perce	Aoki (1970), Rude (1985)
Saharan	Eastern Saharan	Beria	Jakobi & Crass (2004)
	Western Saharan	Kanuri	Hutchison (1981), Cyffer (1998)
Salishan		Bella Coola	Nater (1984), Davis & Saunders (1997)
	Central Salish	Squamish	Bar-el (2008)
Sentani	Nuclear Sentani	Nuclear Nuclear Sentani	Cowan (1965)
Sepik	Sepik Hill	Alamblak	Bruce (1984)
Sino-Tibetan	Bodic	Ladakhi	Koshal (1979)
	Brahmaputran	Garo	Burling (2004)
	Burmo-Qiangic	Burmese (Nuclear)	Lay (1978), Soe (1999)
	Himalayish	Lepcha	Plaisier (2006)
	Karenic	Eastern Kayah Li	Solnit (1997)
	Kuki-Chin-Naga		Bawn
		Meithei (Manipuri)	Chelliah (1997)

	Sinitic	Cantonese	Matthews & Yip (1994)
		Mandarin Chinese	Arcodia, Basciano & Melloni (2015)
Siouan	Core Siouan	Lakhota	Williamson (1984)
Songhay	Northwest Songhay	Koyra Chiini	Heath (1998)
Surmic	South Surmic	Murle	Arensen (1982)
Tacanan	Takanik-Chamik	Araona	Pitman (1980)
Tai-Kadai	Kam-Tai	Thai	Iwasaki & Ingkaphirom (2005)
Tangkic	Southern Tangkic	Kayardild	Evans (1995)
Tsimshian	Nuclear Tsimshian	Coast Tsimshian	Dunn (1979)
Tucanoan	Eastern Tucanoan	Barasano	Jones & Jones (1991)
Tungusic	Northern Tungusic	Evenki	Nedjalkov (1997)
Tupian	Tupi-Guarani	Kokama-Kokamilla	Vallejos Yopán (2010)
		Paraguayan Guarani	Cerno (2011)
Turkic	Common Turkic	Turkish (Nuclear)	Kornfilt (1997), Gökse & Kerlake (2005)
Tuu	Hua	#Hoan (ʔ Amkoe)	Collins (1998)
Uralic	Hungarian		Kenesei, Vago & Fenyvesi (1998)
	Finnic	Finnish	Niemi (1945), Karlsson (1999)
	Samoyedic	Tundra Nenets	Nikolaeva (2014)
Uto-Aztecan	Hopi		Hill (1998)

	Northern Uto-Aztecan	Cahuilla	Seiler (1977)
		Comanche	Charney (1993)
		Ute (Southern Paiute)	Southern Ute Tribe (1980), Givón (2011)
	Southern Uto-Aztecan	Huichol	Comrie (1982)
		Northern Tepehuan	Bascom (1982)
		Yaqui	Dedrick & Casad (1999)
Wakashan	Southern Wakashan	Nootkan	Davidson (2002)
Western Daly	Wagaydy	Maranunggu	Tryon (1970)
Worrorran	Ngarinyin		Coate & Oates (1970), Rumsey (1978), Rumsey (1982)
Yangmanic	Wardaman		Merlan (1994)
Yanomam	Sanumá		Borgman (1990)
Yeniseian	Northern Yeniseian	Ket	Georg (2007)
Yukaghir	Kolymic	Kolyma(/Southern) Yukaghir	Maslova (1999)
Isolate	Africa	Gumuz	Ahland (2012)
		Kunama	Böhm (1984), Thompson (1989), Bender (1996)
		Sandawe	Steeman (2012)
	Asia	Ainu	Refsing (1986), Shibatani (1990), Tamura (2000)

	Burushaski	Munshi (2006), Yoshioka (2012)
	Nivkh	Nedjalkov & Otaina (2013)
Oceania/Papunesia	Kuot	Lindström (2002)
	Lavukavele	Terrill (2003)
	Maybrat	Dol (1999)
	Tiwi	Osborne (1974), Lee (1987)
Europe	Basque	Hualde & Ortiz de Urbina (2003)
North America	Coahuilteco	Troike (1996)
	Euchee	Linn (2001)
	Haida	Enrico (2003)
	Karok	Bright (1957)
	Klamath	Barker (1964)
	Kutenai	Morgan (1991)
	Tunica	Haas (1940)
	Zuni	Newman (1965, 1996)
South America	Cayubaba	Key (1967)
	Pirahã	Everett (1986, 1992)
	Trumai	Guirardello (1999)
	Warao	Romero-Figeroa (1997)