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Pluractionality in Hausa

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Chapter 1: Delimiting pluractionality

1.1. Introduction

Terms like ‘singular’ and ‘plural’ are normally used in connection with the category of number in the nominal domain. It is intuitively very clear what the singular (*a*) *dog* means, as opposed to the plural *dogs*. On the other hand, the notion of ‘plural verbs’ seems to be much less transparent. In spite of that, plural or ‘pluractional’ verbs are more than common in the languages of the world and they fully deserve the growing attention in the literature. Examples from several languages are given below:¹

- (1) a. Wa’kenatahrónnion’ [Mohawk]²
wa’-k-nata-hr-onnion’
FACTUAL-1SG.AGENT-visit-ANDATIVE-DISTRIBUTIVE.PRF
‘I went visiting here and there’
- b. X-in-ru-chap-acha’ [Kaqchikel]³
CP-A1s-E3s-touch-PLRC
‘He touched me repeatedly’
- c. ?inanta-si? ?ana ?i=ʔom-t-i [Konso]⁴
girl-DEF.M/F me 3=bite[PL]-3.SG.F-PF
‘The girl bit me in many places.’
- d. Yârân sun rur-rùudee [Hausa]
children.the 3PL.PF RED-be.confused
‘The children are (all) very confused’

¹ I adopt the following conventions for example sentences and word forms. The language of the example is given in square brackets. A list of languages discussed in this thesis, including the information on the genus and family they belong to, is given on page xvi. The source of the example is indicated in a footnote. If the square brackets are not followed by a footnote reference, the example is my own.

The form of the example sentences taken from the literature is generally preserved (with minor exceptions such as capitalizing the beginnings of the sentences, replacing capitals in glosses by small caps etc.). However, emphasis in the form of underlined or bold text is removed. If the examples do contain emphasis, the emphasis is my own. If other changes to the examples have been made, this is indicated in the footnote associated with the example. Abbreviations used in examples taken from the literature, if not completely transparent, are given in their respective footnotes, unless they are not provided by the author. The list of abbreviations used in the glosses of my own examples is given on page xviii.

In case the translation of an example is not sufficient and additional comments are required, they are added in a fourth line, introduced by ‘N.B.’.

² Mithun (1999:90).

³ Henderson (2010:20).

⁴ Ongaye Oda (2010).

- e. Ysh niaxar ullie hittira [Chechen]⁵
 they door by stand.PLR.WP
 ‘They assumed a standing position by the door’

What all these examples have in common is the fact that they refer to events that are plural in some sense. Sentence (1a) refers to a plural event of visiting different people in different places; (1b) describes a situation involving repeated touching. Example (1c) involves many bites. Sentence (1d) refers to different events (states) of being confused as experienced by different children. In example (1e), several events of assuming a standing position, each by a different person, are described.

The observation that verbs like those given in (1) above refer to situations involving multiplicity of events is reflected in the way Lasnik (1995:240) characterizes pluractional verbs, summarizing descriptive work of many linguists: “The basic idea, I think, is clear; pluractional markers attach to the verb to indicate a multiplicity of actions, whether involving multiple participants, times, or locations”. Thus, pluractionality is not a kind of agreement. It is often stressed in the literature that even though the use of a pluractional form might convey information about the number of individuals involved in the event, pluractionality is essentially about the events themselves being plural.⁶

From the geographical or typological point of view, pluractionality is widespread. In fact, its virtual absence in European languages looks rather like an exception than the rule. Pluractional verbs are found in many languages of the world: they are very common in American languages, all four major families of Africa (Afroasiatic, Niger-Congo, Nilo-Saharan, Khoisan), but they are also found in various languages of Asia (e.g. Paleoasiatic, Austronesian, Papuan) and Australia (cf. Corbett 2000 and the references therein). As for the formal means used to express pluractionality, reduplication, other affixation and stem alternation seem to be the most common (cf. Wood 2007). Moreover, it is generally agreed that pluractional marking is derivational by nature, rather than inflectional. This is in contrast to number marking in the nominal domain, at least as we know it from languages like English (cf. esp. Mithun 1988).

The term ‘pluractional verbs’ was introduced in Newman (1980) and is now widely used. Newman coined the term as a replacement for the older term ‘intensive verbs’, used by most Chadicists at that time, and as a better alternative to the term ‘plural verbs’, which is problematic because it might be misunderstood as referring to plural agreement. Newman did not consider the term ‘intensive verbs’ adequate because, as he puts it, “the essential semantic component of these forms [is] plurality and not intensification” (Newman 2000:423). In his definition, pluractional verbs “indicate multiple, iterative, frequentative, distributive, or extensive action” (Newman 2000:423). Newman was not the first one to recognize the plural semantics of these verbs, however: he himself

⁵ Yu (2003:296). PLR – pluractional, WP – witnessed past.

⁶ See Durie (1986:357-62) and Corbett (2000:252-7) for the diagnostics for verbal number, as opposed to number agreement marked on the verb.

mentions works as old as Westermann (1911). An important early work discussing verbal plurality in general is Dressler (1968). For an extensive overview of the pluractional concept as well as the history of the term see Newman (to appear). Other works that offer a cross-linguistic survey of pluractionality include Wood (2007) and Cabredo Hofherr (2010).

The present thesis belongs to the line of research that focuses on the semantics of pluractionality. In particular, I will provide an analysis of the meaning of pluractional verbs in Hausa (Chadic). Hausa will become the focus of the discussion only in Chapter 2 and 3. Chapter 1 is devoted to a general discussion of pluractionality: its purpose is to delimit pluractionality and discuss possible approaches to it. Before delving deep into the intricacies of the phenomenon, however, a working definition of pluractionality will be given. The purpose of this definition is not to cover all possible cases of pluractionals. Rather, it represents what I consider to be typical properties of pluractional verbs.

(2) **Typical properties of pluractionals**

- form: morphological marking
- meaning: (a) basic meaning – plurality of events:
 - temporal readings
 - participant readings
- (b) additional meanings:
 - large number of events
 - high individuation/ diversification
 - intensification (and other degree-like effects)

A typical pluractional has the plurality encoded in the form of the verb. The typical meaning contribution can be described as consisting of two parts. The first part is the basic meaning of pluractionality, which is event plurality. Event plurality can be manifested in more than one way. It seems to be characteristic for pluractionals that they can be interpreted as referring either to iterated events (temporal readings; cf. (1b)), or events distributed to different participants (participant readings; cf. (1e)).⁷ Even though the ability to express both temporal and participant-based readings is not a necessary feature of pluractionals, I will suggest below that at least some of the markers labeled as pluractional in the literature that give rise exclusively to temporal readings should be analyzed as aspectual. Similarly, a subset of the participant-based cases will be argued to represent a different phenomenon.⁸

⁷ Spatial readings (the plural events are distributed over different locations) could be either considered a subtype of participant readings or they could represent a third type of readings. It is not important at this point which way of dealing with spatial cases is more adequate. What is important at this point is that whether spatial readings are separate or not, a typical pluractional is not restricted to one way of expressing event plurality. Rather, it can be used for all these different meanings.

A fuller discussion of spatial readings – for Hausa only – will be given in Chapter 3.

⁸ The issue will be discussed in section 1.6.1.

In addition to event plurality, pluractionals often express various additional meanings. Most often, these additional meanings are ‘large number’ and ‘high individuation’/ ‘diversification’. This means that pluractionals typically refer to events that are many, rather than simply plural, and differentiated (cf. (1a)). Another possible additional meaning – less common, however – is intensification (cf. (1d)).⁹

The term ‘pluractional’ has also been used to describe cases that do not fit the characterization given above. One of the main goals of this chapter is to explore to what extent the notion of pluractionality can be extended without losing its content. This is particularly important in connection with the relatively large number of recent proposals that analyze phenomena that would traditionally be considered aspectual as pluractional in nature. However, the relation between aspect and pluractionality is not the only area where it is necessary to be careful about where the boundaries are drawn. Before a more adequate definition of pluractionality can be proposed, more research is also needed to determine, for example, which properties of pluractionals are defining and which are only typical. The present thesis cannot answer all possible questions related to how pluractionality should be delimited. Nevertheless, I will argue for a specific position in some of the issues and, in general, I will defend a rather restricted use of the term ‘pluractional’.

In the rest of this introduction, I will briefly discuss several issues. They all have to do with how pluractionality should be delimited. First, I will elaborate somewhat on the relation between pluractionality and aspect and pluractionality and gradability since some of the meaning effects associated with the use of pluractionals could be attributed to these other phenomena as well. Iterativity, for example, traditionally belongs to the domain of aspect. Intensification, on the other hand, is more naturally understood as having to do with gradability, rather than (event) plurality.¹⁰ In relation to that, I will also briefly discuss reduplication as a way of marking plurality, aspectual categories and intensification alike and as such representing a natural connection between these notions. Finally, I will discuss a possible strategy that can be used in determining what should be included in pluractionality and what represents a different phenomenon.

Starting with the connection between pluractionality, aspect and degree, I have stated that the basic meaning of pluractionality is event plurality. However, when looking more closely at the various cases labeled as ‘pluractional’ in the literature, one often encounters examples that could in principle be found in the literature on aspect or gradability. For instance, the habitual and iterative interpretations in (3a-b) would traditionally belong to the realm of aspect:

⁹ In some cases the degree effect seems to be the opposite: detensification. Cf. section 1.4.

¹⁰ The relation between pluractionality and aspect, and pluractionality and degree will be discussed in detail in sections 1.3. and 1.4.

- (3) a. krgrtk- krtk- [Yurok]¹¹
 ‘to fish habitually/ repeatedly’ ‘to fish for trout’
 b. hihindā hindā [Ngamo]¹²
 ‘he stood up repeatedly’ ‘he stood up’

Similarly, one can find examples of pluractional verbs where the event seems to be intensified, as in the following example:

- (4) Ku k’-uuk skuuwoksi’m ku pekoyoh [Yurok]¹³
 ART 2SG-child like.ITR.SG ART red
 ‘Your kids really like the candy (red licorice)’

Put in a non-pluractional context, this example could be taken to illustrate gradability in the verbal domain.

Notice that the boundaries between the three phenomena can be blurred not only in languages that are claimed to have pluractionals. The English example in (5) illustrates how a single expression can give rise to different interpretations that, when considered separately, could be potentially analyzed as plurality (5a), aspect (5b) and gradability (5c):

- (5) a. a lot of furniture ~ many pieces
 b. to go to the cinema a lot ~ frequently
 c. to appreciate a lot ~ intensively

The same degree expression *a lot* can give rise to different meaning effects depending on the type of predicate it combines with (cf. Doetjes 1997, 2004, 2007; Abeillé, Doetjes, Molendijk & de Swart 2004).¹⁴ Example (5a) has an interpretation involving a large number of pieces of furniture (a plural-like effect). In example (5b), *a lot* seems to be contributing the meaning of high frequency, which resembles aspect. Finally, example (5c) illustrates the ability of *a lot* to bring about intensification with the right type of predicate. Looking at cases like these separately might create the wrong impression of what the underlying phenomenon is in each particular case. The examples in (5) thus illustrate that the boundaries between plurality, aspect and gradability might in some cases be less clear and separating these phenomena requires caution.

In addition to the existence of (presumably unambiguous) expressions like *a lot*, where the actual meaning effect depends on the nature of the modified predicate, there is a formal means that is used to express a number of often related but separate meanings:

¹¹ Wood (2007:143).

¹² Newman (to appear, referring to Schuh, p.c.).

¹³ Wood (2007:167). ART – article, ITR – iterative.

¹⁴ The basic idea is that degree expressions like *a lot* require the presence of a scale and the predicates in (5) each introduce a different type of scale. The resulting interpretation then depends on the type of scale associated with the given predicate.

reduplication.¹⁵ Reduplication is very common in the languages of the world. It is also one of the most common means of deriving pluractionals. From the examples below, it can be seen that reduplication can be used to express plurality ((6a-b), (6e)), aspectual notions (6f-g) and meanings connected to gradability ((6c-d), (6h-i)) alike. Note that it applies to many different lexical categories.

- (6) nouns
- | | | | | |
|----|----------------------|-------------------|--------|----------------------------|
| a. | amimígo
'friends' | amígo
'friend' | PLURAL | [Pangasinan] ¹⁶ |
|----|----------------------|-------------------|--------|----------------------------|
- adjectives
- | | | | | |
|----|-------------------------------|--------------------|---------|-------------------|
| b. | na-lulukmeg
'fat.distr' | na-lukmeg
'fat' | PLURAL | [Ilocano] |
| c. | nikkaa nikkaa
'very small' | nikkaa
'small' | INTENS. | [Punjabi] |
| d. | yelo-yelo
'yellowish' | yelo
'yellow' | DETENS. | [Jamaican Creole] |
- verbs
- | | | | | |
|----|------------------------------------|---------------------------|---------------|------------------|
| e. | sseni
'sleep, pl actor' | seni
'sleep, sg actor' | PL. PARTICIP. | [Nukuoro] |
| f. | dewduddag
'repeatedly fall off' | duddag
'fall off' | ITERATIVE | [Yakan] |
| g. | mangi-mangi
'keep running' | mangi
'run' | CONTINUOUS | [Berbice D. Cr.] |
| h. | kyére-kyére
'desire intensely' | kyére
'desire' | INTENS. | [Zamboangeño] |
| i. | lon-lon
'be kind of running' | lon
'to run' | APPROX. | [Ndyuka] |

Thus, on the one hand, the fact that plurality, various aspectual and degree-like meanings can all be expressed by reduplication can be taken as support for the idea that the links between these notions are very natural. On the other hand, the fact that reduplication can have all these uses might also explain why certain meaning effects are sometimes put together despite the fact that they represent separate meanings.

In the paragraphs above I have given some indication as to how and why the boundaries between pluractionality and other phenomena are often unclear. Below I suggest a

¹⁵ Naturally, there are different types of reduplication. However, for reasons of space I cannot discuss any finer distinctions here. For an overview of the various types and meanings of reduplication, see e.g. Moravcsik (1978), Niepokuj (1997), Regier (1998), Rubino (2005).

¹⁶ All examples, except for (d) and (i), are from Rubino (2005). Examples (d) and (i) are from Kouwenberg & LaCharité (2003). Berbice D. Cr. – Berbice Dutch Creole.

strategy that can be used in determining whether a marker is or is not pluractional. In particular, I will suggest that looking at languages that have a single marker for all pluractional uses is of special importance. The reasons are the following. First, if a language has a marker that can be used to express several different ‘meanings’, e.g. iterative and participant-based readings, it is quite safe to conclude that it is a genuine pluractional marker. This is true both in cases in which the given marker is the only pluractional marker of the language and in cases in which the language has other pluractional markers as well. The second reason why studying these ‘general’ pluractional markers is of special importance is a consequence of the first one: they can be used to restrict the range of possible pluractional meanings. This information can then be used when evaluating markers that express more specialized meanings. In particular, I suggest that only those markers could potentially be considered pluractional that express meanings which are also reported as possible meanings of at least some of these ‘general’ pluractional markers. This can be illustrated on durative interpretations. Consider the following description from Newman’s discussion of pluractionality in various Chadic languages (Newman 1991:55):

“Daba [...] has two different constructions of a pluractional nature. It has a reduplicated “iterative” construction that marks action repeated or extended over a period of time, and it has a suffixal “durative” construction which is used for “une action qui a déjà commencé et qui va continuer” [an action that has started and that will continue] (Lienhard & Wieseemann 1986:46).”

Durative readings are not in any obvious sense plural. Yet they are sometimes reported as possible meanings of pluractionals. I suggest that when deciding whether durative interpretations are possible pluractional interpretations, what should be looked at is whether there is a language whose general pluractional marker has also a durative reading. If there is no such marker, then there is no reason to assume that a marker that is used exclusively to express durativity is pluractional, rather than aspectual.¹⁷

From the perspective of what has just been said, Hausa is an ideal language to study since it has a single (reduplicative) pluractional marker for all pluractional ‘meanings’.¹⁸ Apart from Hausa, another language with a single pluractional formation for all uses is Chechen. In Chechen, pluractional verbs are formed by ablaut and receive different interpretations depending on the type of the verb stem (Yu 2003). Klamath also has a reduplicative marker that, according to Lasersohn (1995, relying on the description in

¹⁷ One such case (Chechen) will be considered in section 1.3.

¹⁸ Strictly speaking, there is more than one way to derive the pluractional form: either by means of a reduplicative CVC-/CVG- prefix, or by infixing a reduplicative -CVC- in the penultimate position. Nevertheless, the latter is an archaic formation, used only with a limited set of verbs (which also allow for the more productive formation). Moreover, its use and meaning do not seem to differ in any way from the productive prefixal formation (unless lexicalized with a specific meaning; for more discussion of the pluractional formation see 2.2.7.).

Barker 1964), can have temporal as well as participant-based and, apparently, spatial readings. Unlike Hausa and Chechen, however, Klamath is reported to have a number of other pluractional markers.

Languages that have a number of specialized pluractional markers are naturally very important to study as well. Their importance lies e.g. in providing support for various distinctions made within pluractionality.¹⁹ There are languages that are reported to have two or three pluractional markers (Bole, Yurok),²⁰ but some have been claimed to have up to nine different markers of pluractionality (Cuzco Quechua, Itonama).²¹ The general strategy that should be adopted when a language has a number of highly specialized potentially pluractional markers is to examine each marker carefully to exclude the possibility that some of them represent different phenomena in fact.

This thesis is divided into three chapters. Chapter 1, investigates pluractionality in its various aspects with the goal of delimiting the phenomenon with respect to related phenomena. Several theoretical accounts of pluractionality are presented. Chapter 2 presents the Hausa pluractional data. Chapter 3, the main chapter of the thesis, presents my analysis of pluractionality in Hausa.

In this chapter, the phenomenon of pluractionality and its various aspects will be examined step by step. As already mentioned, the main goal of this thesis is to offer a detailed analysis of Hausa pluractionals. The present chapter will prepare the ground for such an endeavor by delimiting the phenomenon and making it clear what the issues are that need to be addressed whenever an in-depth investigation of the semantics of pluractional verbs is attempted. Nevertheless, this chapter can also be read independently of the rest of the thesis as a hopefully useful, even though necessarily subjective, guide into the intricacies of the phenomenon of pluractionality.

¹⁹ Cf. the discussion in section 1.6.

²⁰ Bole, has three different ways of marking pluractionality (gemination, infixation and reduplication: the first two are used exclusively for distributive readings, the last one can also be used to express repetition; Schuh & Gimba in preparation). Yurok also has more than one affix that can be considered pluractional. According to Wood & Garrett (2002) and Wood (2007) there are two pluractional markers in the language, the so-called ‘iterative’ (‘intensive’ in Wood & Garrett 2002) and ‘repetitive’, which contribute different meanings. (In addition, the form that Wood calls ‘collective’ could probably be considered pluractional too; cf. the discussion in section 1.5.2.)

²¹ Faller (2008, drawing heavily from Cusihuaman 2001) claims that Cuzco Quechua has a number of distinct pluractional markers. Faller (2008) gives a list of nine pluractional markers. It is not entirely clear from the list and the labels and translations given there that all the markers should be considered pluractional (some of the affixes might also be misanalyzed; W. Adelaar, p.c.). Itonama has also been claimed to have a number of ways of marking pluractionality. Crevels (2006) gives a table containing seven (?) pluractional markers. The differences in their use are not completely clear from the table or the examples given. In addition, one of the markers given seems to contain one of the other ones. Moreover, some of the markers can combine within a single verb. Clearly, the situation is very complex in Itonama and would require more research. Unfortunately, it will probably not be possible to study this interesting language in more depth as there were only a few native speakers left at the time the paper was written.

The discussion will begin by addressing the obvious question of the relation between verbal number and nominal number (section 1.2.). Sections 1.3. and 1.4. will be dedicated to the complicated task of teasing apart aspect, plurality and degree. Section 1.5. contains a discussion of the use of the terms ‘distributive’ and ‘collective’, both of which are frequently used in connection with pluractionality. Section 1.6. will deal with two distinctions that are often made within pluractionality: the opposition between event number and participant number, and the distinction between event-external and event-internal plurality. Section 1.7. will be devoted to a discussion of how broad the notion of pluractionality should be, as the literature has lately witnessed an explosion of the use of the term. Four theoretical accounts of pluractionality are presented in section 1.8. Section 1.9. concludes the chapter.

1.2. Relation to nominal number

The mere existence of verbal plurality next to nominal plurality brings about certain questions. Is it necessary to talk about verbal number separately from nominal number? Are the facts in the two domains different to such an extent that they require a separate treatment? Or should the notion of plurality be generalized so that it fits both nouns and verbs? In the present section, I will argue that the same distinctions can often be found with both nouns and verbs but verbal plurality is still better treated as a separate phenomenon. One of the reasons is that verbal plurality has certain properties that seem to be more typical for the verbal domain than for the nominal domain. Another reason is that the complexity of the facts is higher in the case of verbs due to the nature of events as semantic objects. Note, however, that while this type of approach will allow a better understanding of the specifics of verbal plurality, the importance of generalizing the notion of number across domains remains.²²

There exists a large literature on parallels between the nominal and verbal domains. In particular, the mass/ count distinction in nouns is often compared to the unbounded/ bounded distinction in verbal predicates. In other words, number in nouns is compared to aspect in verbs (e.g. Mourelatos 1978, Bach 1986, Krifka 1989, 1992).²³ In this section, I will not discuss parallels of this type, however. The relation between plurality and aspect will be discussed in section 1.3. The present section focuses on comparing the types of distinctions that can be found in the category of number in the two domains, with the goal of determining to what extent the number systems in the two domains are comparable.

²² The analysis of Hausa pluractionality given in Chapter 3 will in fact make the connection between verbal and nominal plurality rather transparent.

²³ According to Krifka (1992), the similarity between nominal and verbal distinctions was observed already by Leisi (1953) and the effect of the verb’s arguments on the aspectual interpretation of the sentence was first investigated by Verkuyl (1972).

Starting the comparison with the number of values the category of number can offer, nouns seem to have more options than verbs. According to Corbett (2000) nominal number can have up to five values (the possibilities being e.g. singular, dual, trial, paucal, plural), while verbal number is usually restricted to the singular vs. plural opposition.²⁴ Actually, as Corbett points out, singular vs. plural (i.e. one vs. more than one) might not be the appropriate distinction. The opposition seems to be often rather ‘one vs. several’ or ‘one vs. many’, as illustrated by the following example from the Papuan language Fasu:²⁵

- | | | | | |
|-----|----|-------------|-------------|----------------------|
| (7) | a. | pari | popari | [Fasu] ²⁶ |
| | | ‘one stays’ | ‘many stay’ | |
| | b. | mara | mora | |
| | | ‘get one’ | ‘get many’ | |

Judging from these differences only, it could seem that verbal and nominal number are rather different from each other. Nevertheless, there are also forms in the nominal domain with properties often found with pluractional verbs. In particular, these are forms that I will be calling ‘special plurals’.²⁷ Special plurals can be contrasted with simple plurals, an example of which are English nominal plurals. In English, singular count nouns are generally assumed to refer to singularities/ atoms. Plural count nouns then refer to pluralities formed by two or more such atoms (alternatively, to atoms and all the pluralities formed from them).²⁸ Nevertheless, some languages have number-neutral forms for count nouns (cf. e.g. Rullman & You 2006, Doetjes to appear among others). Indonesian is an example of such a language: *buku* can refer to both one book and plural

²⁴ Some verbs in some (e.g. North-American) languages seem to have dual forms as well (Mithun 1988, 1999; Corbett 2000). It should be said, however, that these forms might be better analyzed as so-called ‘plural-argument verbs’. These verbs are analyzed as distinct from true pluractionals by Wood (2007). This view is adopted also in this thesis (cf. the discussion in 1.6.1.). As for other number values that are rare in the verbal domain, Konso is a very interesting language to look at. The following example seems to represent a verbal paucal (Ongaye Oda 2010):

(i) ɕɪmayta-si? innaa-sini? ?i=ɕɔ-ɕɔff-ay
 old.man-DEF.M/F child-DEF.P 3=RDP-pinch.SG-PF[3.SG.M]
 ‘The old man pinched the child a few times.’

The verb form exemplified in (i) is a plural derived from a (derived) singulative (*ɕɔ-ɕɔff* ‘pinch a few times’ is derived from *ɕɔff* ‘pinch once’, which is in turn derived from *ɕɔf* ‘pinch many times’). For a comparison to parallel nominal forms in Arabic see footnote 42.

²⁵ Some languages seem to have an opposition ‘one/two vs. more than two’ (cf. Mithun 1999, Corbett 2000). As for the fact that the non-singular form of verbs is usually not specific about the precise threshold value that is required for the form to be felicitous (it is ‘several’, or ‘many’), Corbett views this “indeterminacy of the number value” as something typical for verbal number. It can be seen, for example, from the fact that the number of participants needed for the appropriate use of a plural form differs from verb to verb.

²⁶ Foley (1986:128-9), as quoted by Corbett (2000:250).

²⁷ Cf. Al-Hassan’s (1998) distinction between simple and special plurality.

²⁸ On the debate concerning the question whether atoms should be included in the plural denotation see e.g. Sauerland, Anderssen & Yatsushiro (2005).

books. It is possible to form an unambiguously plural form, by full reduplication: *buku-buku*. It is not entirely clear what the meaning of these reduplicated forms is. It seems that it can be either simple plurality or ‘plurality and variety’.^{29,30}

- | | | | |
|-----|---|--------------------------|----------------------------|
| (8) | buku-buku
‘books, or different kinds of books’ | buku
‘book, or books’ | [Indonesian] ³¹ |
|-----|---|--------------------------|----------------------------|

Forms that express the ‘plurality and variety’ meaning are found in many languages, usually under the label ‘distributive plurals’.³² More examples of this type of special plurality are given in (9). The form in (9a) is distributive in the sense of referring to different kinds, the form in (9b) in the sense of spatial distribution:

- | | | | |
|-----|--|--|------------------------|
| (9) | a. otsikhe’ta’ <u>shòn:’a</u>
‘ <u>various</u> candies’ | otsikhè:ta’
‘sugar, candy, candies’ | [Mohawk] ³³ |
| | b. tukô·yo’
‘snow <u>here and there</u> ’ | tukô·yo’
‘snow’ | [Quileute] |

The situation found with pluractional verbs is often very similar. The simple form of the verb is typically number-neutral (it can be used to refer both to singular and plural events) and the pluractional form refers exclusively to plural events.³⁴ In addition, pluractionals often express that the events are distributed ‘here and there’, affect different kinds of participants etc. Consider the following examples of ‘verbal distributives’ from Mohawk:

- | | | |
|------|---|------------------------|
| (10) | a. Wa’kenatahrónnion’
wa’-k-nata-hr-onnion’
FACTUAL-1SG.AGENT-visit-ANDATIVE-DISTRIBUTIVE.PRF
‘I went visiting <u>here and there</u> ’ | [Mohawk] ³⁵ |
|------|---|------------------------|

²⁹ Whether the reduplicated form receives a simple plural or a ‘variety’ meaning seems to depend on the given lexical item (animate nouns probably tend to be interpreted as simply plural in the reduplicated form, e.g. *orang-orang* ‘people’, in contrast to nouns referring to inanimate objects where the simple form might be preferred if simple plurality is the intended meaning), but it can also vary with the area (Macdonald 1976) and it seems to be subject to historical change (Rafferty 2002, referring to Gonda 1949).

³⁰ Not all languages that have number-neutral forms necessarily have plurals with special meanings. Turkish (Göksel & Kerslake 2005) and Hungarian (Rounds 2001) have number-neutral forms of nouns but if the plural form is used it is to convey a simple plural meaning.

³¹ Macdonald (1976:34).

³² Distributive plurals are used not just to express ‘variety’. It is perhaps more appropriate to characterize distributive plurals as expressing generally higher individuation, separation, or distinctiveness (cf. Mithun 1988, 1999). The issue of individuation, especially individuation of events, will be discussed in more detail in Chapter 3. As for the term ‘distributive’ and its different uses, see section 1.5.1.

³³ Example (9a) is from Andrade (1933:187), as quoted by Mithun (1999:88), (9b) from Mithun (1999:88).

³⁴ There do exist genuine singular forms in the verbal domain, however. Two examples of languages with genuinely singular verb forms are Konso (Ongaye Oda 2010) and Papago (Ojeda 1998; to be discussed in section 1.8.4.)

³⁵ Mithun (1999:90). The translation of (10b) was modified on the basis of Mithun’s discussion of the example.

- b. Wa'khninónnion'
 wa'-k-hninon-nion'
 FACTUAL-1SG.AGENT-buy-DISTRIBUTIVE.PRF
 'I bought different things'

The example in (10a) involves distribution over various locations, the example in (10b) distribution over "assorted objects": the buying was distributed over an assortment of groceries in a shopping cart.

Distributive plurals are not the only kind of special plurals. Another type of special plurals are the so-called 'plurals of large number' (Cusic 1981), or 'plurals of abundance' (Cowel 1964):

- (11) ašja:r šajar [Arabic]³⁶
 'lots of trees' 'tree' (generic/ collective)

In (11), the additional meaning contribution is that of large quantity. Again, in the verbal domain plurality often indicates large quantity or many repetitions, rather than simple plurality in the sense 'more than one':

- (12) a. As q'iigashna twop-qissira [Chechen]³⁷
 1SG crow.PL.DAT gun-throw.PLR.WP
 'I shot crows many times'
 b. mənānu mənū [Ngizim]³⁸
 'spend many years' 'spend a year'

Augmentation seems to be another possibility, as illustrated by the following example:

- (13) buyu:ta:t bayt/buyu:t [Arabic]³⁹
 'big, important houses' 'house'/'houses'

A possible verbal counterpart of this type of plural are cases where plurality (of participants in this case) combines with intensification:

- (14) Yāraa sun rur-rùudee [Hausa]
 children 3PL.PF RED-be.confused
 'The children were very confused'

The first two types, plurals with the 'various kinds' and 'large quantity' meaning effects, can be found rather easily. The third type, representing plurality in combination with augmentation/ intensification, seems to be much less common, both in the nominal and verbal domain. Furthermore, the 'various kinds' and 'large quantity' meaning effects

³⁶ Cusic (1981:18).

³⁷ Yu (2003:294).

³⁸ Schuh (1981), as quoted by Newman (to appear).

³⁹ Cusic (1981:17).

(15) ṣasmāk samak [Syrian Arabic]⁴²
‘many or various fish’ ‘fish’

(16) Naa sàs-sayi littàttàfai [Hausa]
1SG.PF RED-buy books
'I bought many different books'

(17) Ōwã nakokonat sypomp opokakosypi [Karitiana]⁴³
kid 3-DECL-break-REDUPL-VERB-NFUT two-OBL egg
'The kid broke two eggs (one at a time)'

⁴¹ Special plurals can co-exist with other plurals and (genuine) singular forms. For example, triples like the following can be found in Hausa:

(i)	mafaṛkii	màfàṛkai/mafaṛkookii	màfàṛke-màfàṛke
	'dream'	'dreams'	'all kinds of dreams'

⁴² Cowel (1964:369). Note that the plural is derived from a ‘collective’ (and not singular) form. There is a singular (singulative) form (*samake* ‘a fish’) as well, which has its own corresponding plural (*samakāt*). This plural is also referred to as the ‘plural of paucity’ (“it [...] usually implies that the things referred to are few in number and individually discriminated”; Cowel 1964:369). It is generally the ‘collective’ vs. ‘plural of abundance’ contrast that corresponds to the number-neutral vs. pluractional contrast in the verbal domain. Note, however, that Konso seems to have what could be called ‘pluractionals of paucity’, in addition to other kinds of verbal number forms. These plurals are derived from (derived) singulatives. Notice the analogy with the singulative vs. ‘plural of paucity’ contrast in the Arabic nominal system. For a discussion of the verbal number system of Konso see Ongaye Oda (2010). For more discussion on the so-called ‘broken’ vs. ‘sound’ plurals (where ‘broken’ plurals are derived by a base pattern change, e.g. *ʔasmāk*, and the ‘sound’ plurals are derived by suffixation, e.g. *samakāt*) see Ojeda (1992).

⁴³ Müller & Sanchez-Mendes (2007).

The use of the pluractional in (17) does not require the events to be highly individuated, very many or intensified. It is sufficient if there is more than one event of egg-breaking. Needless to say, Karitiana pluractionals are rather exceptional in this respect.

Finally, apart from special plurals, which exhibit the interpretations described above, descriptions of ‘collective’ forms of both nouns and verbs can also be found in the literature. The term ‘collective’ requires some caution, however, as it is used in many different senses. For instance, in the discussion above the term ‘collective’ was used to refer to number-neutral forms in Arabic. The type of ‘collectives’ relevant for the present discussion is illustrated below:

- (18) a. háiwañ [Papago]⁴⁴
 ‘one or more head of cattle belonging to the same herd’
 b. cíkpan
 ‘to work (once or more than once) at one location’

The ‘collective’ form indicates that the objects belong together in a certain way. In Papago, collective forms of nouns express that the entities referred to belong to the same household or group (18a). Collective forms of verbs can be used to indicate that the events take place in the same location (18b) (Ojeda 1998).⁴⁵ Collectives in this sense can be considered the opposite of distributives as exemplified in (9) and (10) (cf. Corbett 2000:117ff).⁴⁶

The discussion above shows that even though there are number forms in the nominal domain that do not seem to have a direct counterpart in the verbal domain (e.g. trials), it is possible to find interesting and rather extensive parallels between the two domains. This is especially the case of forms that I call ‘special plurals’, which are mainly plurals of the ‘many and/or varied’ type. Apart from those, some languages also have both nominal and verbal ‘collectives’ (non-distributives). A summary of the parallels is given in Table 1.1.:

⁴⁴ Ojeda (1998:248, 251).

⁴⁵ Mathiot (1973, 1983) describes the nominal and verbal non-distributive forms in Papago as referring to entities or actions belonging to or taking place at a single ‘locus’.

⁴⁶ Collective interpretations in this and yet another sense will be discussed in more detail in section 1.5.2.

Table 1.1.: Parallels between nominal and verbal number forms

type of ‘plural’	nouns	verbs
simple plurals	‘more than one N’ (English)	e.g. ‘V more than once’ (Karitiana; (17))
special plurals		
a) distributives	e.g. ‘various Ns’ (Mohawk; (9a))	e.g. ‘V here and there’ (Mohawk; (10a))
b) plurals of abundance	‘many Ns’ (Arabic; (11))	e.g. ‘V many times’ (Chechen; (12a))
c) augmented/ intensified plurals	e.g. ‘big/ important Ns’ Arabic; (13))	e.g. ‘pl. subj V very much’ (Hausa (14))
collectives	e.g. ‘N(s) belonging to one herd’ (Papago; (18a))	e.g. ‘V at one location’ (Papago; (18b))

Coming back to the questions posed at the beginning of this section, let us consider now the possibility of treating nominal and verbal number uniformly. Nouns often express number values that are generally not found with verbs. On the other hand, in some languages the situation in the nominal and verbal domain is very similar and therefore a single analysis for both could be considered.

Papago is a language whose nominal and verbal number systems are very much parallel. It has indeed been proposed that nominal and verbal number could be treated uniformly in this language (Ojeda 1998). Papago has singular, ‘collective’ (non-distributive) and distributive forms with both verbs and nouns, with parallel meanings. This has already been illustrated for the non-distributive forms. As for the singular and distributive forms, an illustration of the parallels is given in (19):

(19) *unitive/singular*

- a. dáikuḍ [Papago]⁴⁷
‘a single chair from a single household’
- b. héhem
‘to laugh once (at one location)’
- c. habcéʔi
‘to say something for the first time once (at one location)’

⁴⁷ Ojeda (1998:249, 251).

distributive

- d. dáḍḍaikuḍ
‘several chairs from several households’
- e. cíckpan
‘to work (more than once) at more than one location’
- f. habcécce
‘to say something for the first time more than once at more than one location’

Ojeda assumes that individuals and events can both form mereological structures (cf. Bach 1986, Krifka 1989, who extend Link’s 1983 proposal to events) and as such they can be assigned essentially the same analysis.⁴⁸ Similarly to Ojeda (1998), Bar-el (2008) proposes a uniform semantics for nominal and verbal plurality in Squamish. The plural marker itself is identical (CVC- reduplication; Bar-el 2007, 2008, van Eijk 1998).⁴⁹

- | | | | | |
|------|----|----------------------------|----------------|--------------------------|
| (20) | a. | mex-míxalh | míxalh | [Squamish] ⁵⁰ |
| | | ‘bears’ | ‘bear’ | |
| | b. | Chen tl’ex-tl’exwenk | Chen tl’exwenk | |
| | | 1S.SG REDUP-win.INTR | 1S.SG win.INTR | |
| | | ‘I’m winning all the time’ | ‘I won’ | |

Bar-el assumes that the CVC-reduplicant in Squamish is simply a plural marker, which does not specify the domain to which it applies. As such, it creates either plural individuals or plural events (Bar-el 2007, 2008).

To summarize, there do exist proposals that assign a uniform semantics to nominal and verbal plurals. However, languages in which the nominal and verbal number systems are sufficiently similar are probably very rare. Usually, the differences between the two domains are rather substantial. In Hausa, for example, the plurality in the verbal domain is clearly not simple plurality, in the sense of ‘more than one’. By contrast, nominal plurals are generally simple plurals.⁵¹ In addition, there are other differences between the two domains, e.g. in the obligatoriness of plural marking. In general, it is to be expected that different languages will have different combinations of nominal and verbal number systems. As a consequence, for most languages, the idea of a uniform analysis for both nominal and verbal plurality is not very plausible. In addition, there are other reasons for treating pluractionality as a phenomenon in its own right. In particular, this kind of approach allows for focusing on the interesting issue of the relation between pluractionality and aspect, which is often touched upon in the literature. This issue is specific to verbs. The relation to aspect will be the topic of the following section. Before

⁴⁸ A more detailed discussion of Ojeda’s proposal is given in section 1.8.4.

⁴⁹ Cf. also Mithun (1988) for other North American languages, in some of which the same marker can be found also on adjectives.

⁵⁰ Bar-el (2008:33,38).

⁵¹ But see the more detailed discussion of nominal plurality in Hausa in section 2.2.5.2.

moving on there, however, it is worth stressing that despite the fact that pluractionality is probably best treated as a separate phenomenon, the study of pluractionality should be seen as contributing to our understanding of plurality in general.

1.3. Relation to aspect

The issue of the relation between aspect or Aktionsart and pluractionality is an important but also a complicated one, which is reflected by the lack of clarity on the distinction between these notions in the literature. This lack of clarity starts with the terminology, since various researchers use the terms aspect and Aktionsart differently. Therefore, I will start by trying to get some of the terminological confusion out of the way (subsection 1.3.1.). Subsection 1.3.2. will then review how the connection between pluractionality and aspect has been described in the literature. One of the main points of this section will then be that event plurality, including iterativity, is independent of the perfective vs. imperfective and bounded vs. unbounded distinctions (subsection 1.3.3.). As the other main point of this section has to do with iterative readings, I will first separate them from habitual readings, which are necessarily unbounded (subsection 1.3.4.). The claim will then be that iterative readings can have more than one source and, as a result, do not necessarily involve pluractionality. Basically, both aspectual categories and pluractionality, while representing separate phenomena, can give rise to iterative interpretations (subsection 1.3.5.). At the end of the section, I will extend the discussion to the issue of durative/ continuous readings (subsection 1.3.6.). Subsection 1.3.7. concludes the discussion.

1.3.1. Terminological issues

Let us start by looking at how aspect and Aktionsart are defined and how different authors relate pluractionality to these notions. Comrie (1976:3) gives the following definition of aspect (which is based on the definition given by Holt 1943): “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 adds to this in a footnote that the distinction between aspect and Aktionsart is drawn in two different ways, depending on the tradition. In both traditions aspect involves grammaticalization of the relevant semantic distinctions and Aktionsart represents lexicalization of the distinctions. The difference is that for Slavicists Aktionsart involves lexicalization by means of derivational morphology, while in the non-Slavicist tradition it is not important how the distinctions are lexicalized (Comrie 1976:6-7). To that it should be added that also the ‘relevant semantic distinctions’ are not the same, which will be made more explicit in the following paragraphs.

In the Slavicist tradition, Aktionsart refers to lexical classes of verbs such as ‘ingressive’, ‘delimitative’, ‘resultative’, ‘perdurative’, ‘cumulative’, ‘distributive’, ‘attenuative’,

‘semelfactive’ etc., which are derived from the basic verb by means of various affixes, mainly prefixes.⁵² A possible classification of different Aktionsart meanings can be found in Isačenko (1968). Isačenko distinguishes Aktionsarten with phase meaning, quantitative meaning, distributive meaning, and iterative meaning. Unlike aspect, which Isačenko considers a grammatical category with two values (perfective and imperfective),⁵³ Aktionsart is not ‘binary’. Verbs of different Aktionsarten do not form pairs, they are generally either perfectiva or imperfectiva tantum, as illustrated below (the relevant affixes are underlined).⁵⁴

- (21) *aspectual pairs* [Czech]
- | | | |
|--------------------------|---|-------------------------------|
| a. <i>imperfective</i> | | <i>perfective</i> |
| vař-i-t | > | <u>u</u> -vař-i-t |
| cook-SUF-INF | | PFV-cook-SUF-INF |
| ‘to cook/ to be cooking’ | | ‘to cook’ |
| b. <i>perfective</i> | | <i>secondary imperfective</i> |
| za-vař-i-t | > | za-vař- <u>ova</u> -t |
| PREF-cook-SUF-INF | | PREF-cook-IPFV-INF |
| ‘preserve (e.g. fruits)’ | | ‘to be preserving’ |
- (22) *Aktionsarten*
- | | |
|------------------------------|--------------|
| a. <i>perfectivum tantum</i> | |
| <u>po</u> -vař-i-t | DELIMITATIVE |
| DEL-cook-SUF-INF | |
| ‘cook for a little while’ | |

⁵² Cf. Isačenko (1968).

⁵³ The claim is not completely unproblematic for Slavic languages, where the perfective vs. imperfective distinction is only partly ‘grammatical’ or ‘inflectional’ (cf. Dickey 2000; also e.g. de Swart’s 2011b observation that the distinction between lexical and grammatical aspect is not always easy to establish in languages like Russian). Every verb is either perfective or imperfective and there are clear diagnostics for (im)perfectivity but pure aspectual pairs are rather rare. Perfective verbs are commonly derived from imperfective ones by prefixation. However, most prefixes carry some lexical meaning as well so they cannot be considered pure markers of perfectivity. In Czech, pure aspectual pairs are either pairs where the perfective form is derived by a purely perfectivizing prefix, where the imperfective form is derived from an underived perfective form, or where the imperfective form is derived from a derived perfective form (these are called secondary imperfectives). Nevertheless, even though the opposition between the perfective and imperfective aspect is not instantiated by pure aspectual pairs throughout the verbal system, aspect is still to be considered a grammatical category. By contrast, different Aktionsarten are lexical categories (cf. also Petr 1986, Grepl et al. 1995).

⁵⁴ SUF - stem suffix, INF – infinitive suffix, PFV – purely perfectivizing prefix, PREF – lexical prefix, IPFV – imperfectivizing suffix, DEL – delimitative prefix. Notice that the form in (22b) can be analyzed as being derived by a circumfix consisting of *po*- and *-áva*- (one of the reasons for not considering this a secondary imperfective derived from a *po*-prefixed verb is that there is no verb **pomrkat*).

b. *imperfectivum tantum*po-mrk-áva-t

REPETITIVE-ATTENUATIVE

DEL-wink-IPFV-INF

‘to wink at somebody (repeatedly, usually discreetly)’

The verbs in (21a) represent a case where the perfective form is derived from the imperfective one by means of a semantically ‘empty’ perfectivizing prefix. The aspectual pair in (21b) is formed by a derived perfective verb and its corresponding secondary imperfective form (*zavařit* ‘preserve’ is derived from the imperfective verb *vařit* ‘cook/boil’). The verbs in (22), on the other hand, do not have aspectual counterparts. There is no secondary imperfective **po-vař-ova-t* derived from *povařit*. Likewise, *pomrkávat* does not have a perfective counterpart: **pomrkat*.

As for the other, non-Slavicist tradition, the term Aktionsart is generally used interchangeably with the term ‘aspectual classes’, and as such it refers to categories such as activities, accomplishments, states or achievements (Vendler 1967, Dowty 1979, Mourelatos 1978, Bach 1986 among many others). Smith (1991) refers to these classes using the term ‘situation aspect’, or ‘situation types’, which she contrasts with viewpoint aspect.⁵⁵ The term ‘viewpoint aspect’ (or just ‘viewpoint’) is used to talk about the distinction between viewing a situation as a whole – perfective viewpoint – or focusing on a part of a situation only – imperfective viewpoint. By considering ‘situation aspect’ a type of aspect, the term aspect broadens considerably (Smith 1991:3).^{56,57}

“Aspect traditionally refers to the presentation of events through grammaticized viewpoints such as the perfective and imperfective. Recently, as scholars have come to appreciate the inter-relation between viewpoint and situation structure, use of the term has broadened to event structure or Aktionsart. Both viewpoints and situation types convey information about temporal factors of situations such as beginning, end, and duration.”

To conclude the terminological discussion, the terms aspect and Aktionsart are used quite differently by different authors. What is crucial for the present discussion, however, is that when verbal number or pluractionality is said to belong to Aktionsart or aspect, it

⁵⁵ Smith adds semelfactives to the four traditional types. In her view, categories like inchoative, causative, resultative etc. belong to a classification that is orthogonal to that of situation types. She also distinguishes derived situation types: habitual and multi-event situation types, which belong to the classes of statives and activities (Smith 1991).

⁵⁶ Verkuyl (1993, 1999) proposes the term ‘aspectuality’ to cover both what has traditionally been called aspect and Aktionsart. For arguments for keeping the two types of aspect separate cf. Richardson (2007).

⁵⁷ Other names for Aktionsart in the non-Slavicist tradition are ‘temporal constitution’ (Krifka 1989, 1992), or ‘predicational’, as opposed to ‘grammatical’, aspect (e.g. Verkuyl et al. 2004). Note, however, that for Verkuyl (1972 and subsequent work) ‘inner aspect’ is not lexical but rather compositional, in contrast to e.g. Comrie’s definition of Aktionsart at the beginning of this subsection. Thus, it might be appropriate to distinguish three types of aspect in fact: lexical aspect, telicity and viewpoint aspect (Borik 2002:12-13).

generally means that it is a type of lexical or situation aspect, not a type of grammatical or viewpoint aspect. To avoid confusion, I will use the terminology in my own discussion of the relation between pluractionality and aspect as follows. To refer to the perfective vs. imperfective distinction, I will use the term ‘viewpoint aspect’. The term ‘Aktionsart’ will be used essentially as in the Slavicist tradition, since the categories of lexical aspect distinguished in the non-Slavicist tradition are better referred to by the terms ‘aspectual classes’ or ‘situation types’. Nevertheless, when discussing iterativity both the terms ‘Aktionsart’ and ‘situation aspect’ can be used since iterativity has been subsumed under lexical aspect in both traditions (cf. Smith 1991).

After discussing the terminology, the focus can now be moved to how the connection between pluractionality (mainly of the iterative type) and aspect/ Aktionsart has been understood in the literature.

1.3.2. Pluractionality vs. aspect in the literature

In Dressler (1968), the terms ‘verbal plurality’ and ‘iterative Aktionsart’ are used interchangeably. Also for Cusic (1981), event plurality basically belongs to Aktionsart. Essentially the same approach can be found in Wood (2007:10): “I will argue that there is a close relationship between pluractionality, aspect and Aktionsart, and that pluractional categories are perhaps best understood as a type of Aktionsart”. Wood uses the term ‘aspect’ in the sense of ‘viewpoint’ and Aktionsart is for her independent of viewpoint. This implies that pluractionality should also be independent of viewpoint. In this connection, note the interesting observation by Dressler that there is an affinity between iterative Aktionsart (i.e. verbal plurality) and imperfective aspect but that iteration and perfective aspect do not exclude each other.⁵⁸ Finally, according to Corbett (2000), event number looks very much like aspect.⁵⁹ Corbett distinguishes two types of verbal number: event number and participant number. Event number refers roughly to repeated events and participant number to cases where the plural form of a verb is used to signal that the event has plural participants. The two types of number can be illustrated by the following examples.⁶⁰

(23) *event number*

- | | | | | |
|----|---------------------------|-------------|------------------|-------------------------|
| a. | As | q’iigashna | twop-qwessira | [Chechen] ⁶¹ |
| | 1SG | crow.PL.DAT | gun-throw.WP | |
| | ‘I shot crows’ | | | |
| | | | | |
| b. | As | q’iigashna | twop-qissira | |
| | 1SG | crow.PL.DAT | gun-throw.PLR.WP | |
| | ‘I shot crows many times’ | | | |

⁵⁸ Dressler (1968:60). An example of a perfective plural verb will be given below.

⁵⁹ Corbett does not use the term Aktionsart but it is presumably lexical aspect/ Aktionsart that he has in mind.

⁶⁰ The event number vs. participant number distinction will be discussed in more detail in section 1.6.1.

⁶¹ Yu (2003:294). WP – witnessed past.

participant number

- c. (Nee) ne-nua [Huichol]⁶²
 1.SG 1.SG-arrive.SG
 ‘I arrived’
- d. Tiiri yihuuta-ti me-niu?aziani
 children two-SUBJ 3.PL-arrive.PL
 ‘Two children arrived’

According to Corbett (2000:247), “repeated versus non-repeated action is a classic aspectual distinction” and thus it could be taken as a type of verbal aspect. Still, he claims, there are reasons for treating verbal number separately (Corbett 2000:247):

“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.”

In accordance with Corbett’s (2000) first point, Bar-el (2008) suggests that in Squamish, the verbal and nominal number are to be treated as one phenomenon (cf. section 1.2. above). Note, however, that Corbett (2000) is only considering the idea that verbal number is a type of aspect for event number. As such, the possibility to analyze verbal number as aspect basically only exists for iterative cases. It would be rather non-standard to try to analyze the participant-based cases (e.g. (23d)) as aspect. This can be taken as a strong argument against subsuming pluractionality under (situation) aspect/ Aktionsart, as pluractional verbs are not only used to refer to repeated events but often also to events with plural participants. As a matter of fact, researchers who make a strong connection between aspect and pluractionality usually only deal with iterative/ temporal cases (e.g. Van Geenhoven 2004, Laca 2006). In this thesis, I adopt the position that pluractionality is separate from situation aspect/ Aktionsart exactly because pluractionality is not primarily about the temporal structure of events, while aspect in general is. In addition, investigating pluractionality in a broader context of the study of plurality can bring insights that would be lost if pluractionality was considered just a type of situation aspect/ Aktionsart.

In the next subsection, I will show that even though it might be a matter of debate whether a subset of pluractional cases is to be understood as a type of situation aspect/ Aktionsart or not, pluractionality is clearly independent of viewpoint aspect and the

⁶² Comrie (1982:99), as quoted by Corbett (2000:253).

bounded/ unbounded distinction (contra e.g. Van Geenhoven 2004, Alexiadou et al. 2007).⁶³

1.3.3. Pluractionality is independent of viewpoint aspect and the bounded vs. unbounded distinction

In order to see that verbal plurality is independent of viewpoint aspect, let us start with a few examples from Czech. Czech does not have pluractional verbs. However, it has verbs that (unambiguously) express iterative action.⁶⁴ The examples in (24) illustrate that both perfective verbs, which are used to talk about bounded events, and imperfective verbs, used to talk about unbounded events, can refer to plural events:

- (24) a. Za-klepal na dveře PERFECTIVE [Czech]
 PREF-knock.PFV on door
 ‘He knocked on the door’
 N.B. more than one knock
- b. Po-skakoval po chodniku IMPERFECTIVE
 PREF-jumped.IPFV on sidewalk
 ‘He jumped/ was jumping on the sidewalk’
 N.B. repeated little jumps, hopping

The example in (24a) refers to more than one knock: the sentence cannot be used if the person knocks on the door only once. The prefix makes the verb perfective, however, and gives an idea of a limit: the number of the knocks is rather small. The resulting event is thus bounded. Sentence (24b) also contains a plural verb: the verb expresses a plurality of small jumps. In this case, the verb is imperfective and refers to an unbounded event.

Similarly, pluractional verbs in Hausa can co-occur with both perfective and imperfective tense-aspect markers, which means that they can also get both bounded and unbounded readings:

- (25) a. Mutàanên sun zaz-zàunaa PERFECTIVE [Hausa]
 people.the 3PL.PF RED-sit.down
 ‘The people sat down’
- b. Mutàanên sunàa zaz-zàunâwaa IMPERFECTIVE
 people.the 3PL.IMPF RED-sit.down.VN
 ‘The people are/ were sitting down’

⁶³ These authors claim that pluractionality leads to unboundedness/ atelicity. Cf. Van Geenhoven (2004:142-3): “Pluractional predicates are like mass nouns (i.e., cumulative) and it is this that makes them unbounded and therefore atelic”. See also section 1.8.3.

⁶⁴ Filip & Carlson’s (2001) claim that Czech does have pluractional markers is discussed in the next subsection.

Both sentences contain pluractional forms and refer to plural events. Sentence (25a) refers to a completed event of a number of people sitting down. Sentence (25b) presents the action as an ongoing one: the people are in the process of sitting down.

These examples show that verbs referring to plural events can co-occur both with imperfective and perfective markers and that the plurality can be both bounded and unbounded. I conclude, then, that pluractionality is independent of the distinction between bounded and unbounded events.

1.3.4. Habitual readings

Before proceeding to the discussion of the different sources of iterative interpretations, it is important to separate habitual readings from iterative ones. The relevance of discussing habitual readings follows from the fact that pluractional verbs have been claimed to give rise to this type of interpretation in some languages. Consider the following examples:

- (26) a. Yok legaayo' ku mewihl [Yurok]⁶⁵
 here pass.ITR ART elk
 'The elk come through here'
- b. Chen tl'ex-tl'exwenk [Squamish]⁶⁶
 1S.SG REDUP-win.INTR
 'I'm winning all the time'

Rather than there being pluractionals that are interpreted exclusively habitually, it seems more correct to say that pluractional forms that are assigned iterative interpretations can often receive habitual readings as well.⁶⁷

- (27) Chen kwel-kwelesh-t ta sxwi7shn [Squamish]⁶⁸
 1S.SG REDUP-shoot-TR DET deer
 a. 'I shot the deer several times'
 b. 'I hunt for a job'

Habitual sentences are necessarily unbounded ('imperfective' in Comrie's 1976, 'stative' in Smith's 1991 terminology). Iterative interpretations are different from habitual interpretations in that they can involve an event that is repeated a limited number of times (a bounded event, possibly expressed by a perfective form), or an unlimited number of times (an unbounded event, expressed by an imperfective form). In

⁶⁵ Wood (2007:146).

⁶⁶ Bar-el (2008:33).

⁶⁷ Another example of a language in which a pluractional generally interpreted as iterative has also habitual uses is West Greenlandic (Van Geenhoven 2005, footnote 2).

⁶⁸ Bar-el (2008:34).

“In some discussions of habituality, it is assumed that habituality is essentially the same as iterativity, i.e. the repetition of a situation, the successive occurrence of several instances of the given situation. This terminology is misleading in two senses. Firstly, the mere repetition of a situation is not sufficient for that situation to be referred to by a specifically habitual (or, indeed, imperfective) form. If a situation is repeated a limited number of times, then all of these instances of the situation can be viewed as a single situation, albeit with internal structure, and referred to by a perfective form. [...] Secondly, a situation can be referred to by a habitual form without there being any iterativity at all.”

1.3.5. Sources of iterative readings

(28) a. Fluffy was jumping (from bed to bed)
 b. Fluffy skákal z postele na postel [Czech]
 Fluffy jumped.IPFV from bed to bed

(i) Vypije jednu skleničku vodky denne
drinks-PF one glass vodka day
'S/he drinks one glass of vodka a day'

⁷⁰ Cf. also Wood (2007:10), who, with reference to the English progressive, points out that “aspectual categories which are not inherently pluractional can [...] produce interpretations of repetition when combined with certain types of events”.

It is the presence of the progressive/ imperfective forms in (28a-b) what triggers the iterative reading. The iterative interpretation is not the only possible interpretation of the progressive/ imperfective: the sentences could also be interpreted as referring to Fluffy's being in the middle of the action.⁷¹ However, the iterative interpretation is much more plausible, due to the short duration of the event of jumping. I believe that the correct approach to these cases is to see the iterative interpretation as a result of the situation being presented as an ongoing action. In other words, these cases do not involve pluractionality.

While cases where the iterative interpretation is the result of the predicate being in the progressive/ imperfective should be relatively easy to identify, the situation is more complicated in the case of iterative or frequentative Aktionsart. Cases like the following one quite clearly belong to the realm of aspect:

- (29) Fluffy skák-áva-l do vody z tohoto prkna [Czech]
 Fluffy jump-FREQ-3SG.M.PST into water from this board
 'Fluffy used to jump into the water from this board'

The sentence in (29) refers to a more or less regularly repeated action in past. It is not simple iteration: the frequentative form is rather used to indicate a habit. Frequentatives are imperfective in Czech (and Slavic in general) but, unlike in (28b), the repeated action meaning is not just one of the possible interpretations of the imperfective aspect. Rather, the iterative meaning is unambiguously contributed by the use of the frequentative suffix.⁷² Note, however, that while in Czech, the frequentative suffix is clearly aspectual in nature, markers of iterativity in other languages might be more difficult to analyze as either aspectual or pluractional.⁷³

This raises the question whether it is possible to determine if an iterative interpretation is a result of pluractionality or iterative Aktionsart. As mentioned already in subsection 1.3.2., pluractionals generally give rise not only to iterative but also participant-based and other readings. I suggest, then, that the question whether the given marker marks exclusively iterativity or whether it has other uses as well can be used as a criterion. If the iterative interpretation is the only interpretation of the given marker I suggest that it

⁷¹ The Czech sentence also has a habitual reading.

⁷² The connection between iterativity and imperfective aspect is very interesting. Old Slavic had morphological iteratives, which were reanalyzed as simple imperfectives as the new aspectual system with the opposition perfective – imperfective developed. This means that the iterative meaning became only one of the possible meanings of these originally exclusively iterative forms. As a consequence of the change in the aspectual system, imperfectives that were not morphologically iterative started to be able to express iterative meanings as well and in some cases even replaced the older morphological iteratives (Němec 1958). Note, however, that while iteratives/ frequentatives are typically imperfective, iteration is not necessarily associated with imperfective aspect (cf. Němec 1958, Dressler 1968, Comrie 1976).

⁷³ An example of a study analyzing markers expressing exclusively iteration (in West Greenlandic) as pluractional is Van Geenhoven (2004). This proposal will be discussed in detail in section 1.8.3. The opposite case also exists. Markers that are clearly pluractional, expressing both iterative and participant-based meanings, are sometimes considered markers of iterative aspect (e.g. Foley 1986:148 for Kiwai, a Papuan language).

is better to treat the marker as expressing iterative Aktionsart, unless other facts indicate otherwise.⁷⁴ A typical pluractional will have other uses apart from the temporal ones.

To summarize, iterative cases require caution since iterativity can have several distinct sources: pluractionality, iterative Aktionsart and imperfective aspect. In other words, these three phenomena are distinct from each other, yet they can lead to a similar result in certain cases.

1.3.6. Durative readings

The final issue to be dealt with within the pluractionality vs. aspect discussion is the issue of durative/ continuous readings.⁷⁵ Some authors mention durative/ continuous interpretations as possible interpretations of pluractional verbs (e.g. Cusic 1981, Yu 2003; cf. also Van Geenhoven 2005 and the so-called continuative marker in West Greenlandic). Two examples illustrating this type of interpretation are given below (Houser et al. 2006):

- (30) a. Nüü mana'wi sa'a [Mono Lake Pauite]⁷⁶
 I for.a.long.time cook.DUR
 'I cook for a long time'
- b. Tümpi kattü paa kuppä [Tümpisa Shoshone]
 rock sit.DUR water in
 'The rock is sitting in the water'

The question raised by examples of this type is whether continuous readings can be considered plural. The terms 'durative' or 'continuous' would normally belong to the domain of (situation) aspect, not plurality.⁷⁷ Similarly to the cases of iterative interpretations, then, the general strategy should be as follows. Whenever a pluractional marker is reported to have a durative/ continuous reading, such cases should be considered carefully to exclude that possibility that the so-called pluractional marker is in fact an aspectual marker.

In this connection, an interesting language to look at is Chechen. In Chechen, pluractional verbs are formed by stem vowel alternation. They are claimed to have three kinds of interpretations: iterative, distributive and durative, with the iterative interpretation being the most typical one (Yu 2003, Wood 2007). The durative interpretation can be exemplified by the following example:

⁷⁴ Forms expressing iteration that should be analyzed as marking verbal number and not iterative aspect can be found e.g. in Papago (cf. section 1.8.4.).

⁷⁵ In fact, this issue is also connected to the discussion of the connection between plurality and degree, which is the topic of section 1.4.

⁷⁶ Houser et al. (2006:3,7).

⁷⁷ Similar readings can also arise as a result of modification by degree expressions, which is an issue to be discussed in the next subsection.

- (31) Beer pxinna minuotiahw c'iizira / *c'euzira [Chechen]⁷⁸
 baby five.OBL minute.LOC whine.PLL.WP/ whine.WP
 'The baby whined for five minutes'

If the whining lasts longer than just a moment, the pluractional has to be used. The data are quite surprising from the point of view of English, where *whine* is an activity verb and as such compatible with durative adverbials. However, in Chechen, the non-pluractional verb can refer only to an instantaneous event and to express a duration the pluractional form has to be used. Wood describes the non-pluractional verbs as referring to a 'minimal unit' of action. The class of verbs with this behavior includes verbs of motion that can be translated as 'crawl' or 'run'. Unlike the type of verbs represented by example (31), the motion verbs do not refer to instantaneous events. According to Wood, they rather refer to events that are somehow bounded (by a goal, time etc.). As such, they can also be said to refer to bounded units in the non-pluractional form, just like the type of verbs exemplified in (31):

- (32) a. So tykana vedira [Chechen]⁷⁹
 1.SG.ABS store.DAT V.run.WP
 'I ran to the store'
- b. So cwana sahwiahw idira
 1SG.ABS one.OBL hour.LOC run.PLL.WP
 'I ran (went running) for one hour'

It can be concluded from these facts that the non-pluractional verbs are indeed not activity verbs, contrary to what one might be inclined to think based on their English translation alone. As a consequence, the so-called durative cases are not durative in fact. Rather, they should be understood as involving repetition, where what is repeated is the 'minimal unit' of action. Given the fact that these minimal events are internally homogeneous, so to speak, simple repetition without gaps between the events gives rise to readings indistinguishable from durative readings. Nevertheless, the issue cannot be resolved completely, as there are cases that seem to be genuinely durative and not just masked repetitions:

- (33) As hara eeshar shina minuotiahw liiqira [Chechen]⁸⁰
 1SG.ERG DEM song two.OBL minute.LOC sing.PLL.WP
 'I sang this song for two minutes (the song may not have been completed)'

In (33), it is not clear whether repetition is involved. Given that the song may not have been even completed, it is not clear what the repeated minimal unit of the event would be.

⁷⁸ Wood (2007:222). PLL – pluractional, WP – witnessed past tense.

⁷⁹ Wood (2007:224).

⁸⁰ Wood (2007:228).

To conclude, I suspect that in most cases the so-called durative uses of pluractional verbs either turn out to be masked repetitions or that the verbal forms are in fact not pluractional but rather express durative Aktionsart. However, at this point I do not have enough evidence for making any definite conclusions and thus I leave the issue open.⁸¹

1.3.7. Conclusion

In this section, I discussed the relation between pluractionality and aspect. I argued that pluractionality is not a type of Aktionsart/ situation aspect (contra e.g. Cusic 1981, Wood 2007). The main reason is that the temporal-like interpretations form only a subset of all pluractional interpretations. Pluractionality is not primarily concerned with the temporal structure of events. Rather, it expresses plurality of events, and event repetition is just one type of event plurality. I also argued in this section that pluractionality is independent of viewpoint aspect and the bounded vs. unbounded distinction (contra e.g. Van Geenhoven 2004, 2005). Pluractionals can in principle be combined both with perfective and imperfective aspect and can give rise to both bounded and unbounded interpretations. Pluractionality is thus distinct from both lexical and grammatical aspect. Nevertheless, both types of aspect, on the one hand, and pluractionality, on the other hand, can give rise to iterative interpretations. It may be very hard to decide whether a given iterative interpretation is a result of pluractionality or iterative Aktionsart. A suggestion made here was that cases with exclusively temporal interpretations are better analyzed as aspectual rather than pluractional.

1.4. Relation to degree

As mentioned in the introduction to this chapter, pluractional verbs have sometimes been called ‘intensive verbs’. Moreover, pluractionals typically express meanings that go beyond simple event plurality and one of the additional meanings found with pluractionals is intensification (or other degree-like effects). Both these facts suggest that there is a natural connection between event plurality and gradability. In this section, I will argue that discussing gradability in connection with pluractionality is relevant in two respects. First, the interpretations that pluractionals give rise to could at least in some cases also be analyzed as resulting from degree modification. This means that the possibility exists that markers that are usually analyzed as marking event plurality should be analyzed as degree expressions instead. If that were the case, the use of the term ‘intensive verbs’ would in fact be justified. I will argue below, however, that this hypothesis is not supported by the available pluractional data. A degree analysis would predict the existence of many non-plural interpretations, which is a prediction that is not borne out.⁸² The second way in which gradability enters the discussion is related to the

⁸¹ The issue is not very pressing for the present thesis, as Hausa pluractionals do not give rise to durative interpretations.

existence of degree effects accompanying event plurality, which are reported for different types of pluractionals. The degree effects are generally of two types: intensification and detensification. Both types of cases will be described below.

This section is divided into five subsections. Subsection 1.4.1. is a discussion of the fact that degree expressions sometimes seem to give rise to plural interpretations. Subsection 1.4.2. deals with the question to what extent it is justified to use the term ‘intensive verbs’. In particular, cases that seem to involve intensification without the event being plural are discussed there. After that I turn to cases where intensification is a meaning effect found in addition to event plurality (subsection 1.4.3.). Finally, cases where event plurality is accompanied by some form of detensification or decrease are dealt with (subsection 1.4.4.). Subsection 1.4.5. concludes the discussion.

1.4.1. Degree expressions and plurality

There is a class of expressions that can be called degree expressions, some of which combine with different lexical categories and can give rise to rather different interpretations depending on what type of predicate they combine with (cf. Doetjes 1997, 2004, 2007). Thus, when combined with a plural count noun, as in (34a), or a mass noun, as in (34b), a degree expression like the Czech *hodně* ‘a lot’ gives rise to an increased quantity interpretation. When combined with an abstract noun, as in (34c), on the other hand, the change in the interpretation is on the qualitative, rather than quantitative scale, resembling the cases in which *hodně* combines with certain adjectives (34d).

- (34) a. *hodně ponožek* [Czech]
 ‘a lot of socks’
 b. *hodně pudinku*
 ‘a lot of pudding’
 c. *hodně lásky*
 ‘a lot of love’
 d. *hodně intuitivní*
 ‘very intuitive’

Hodně can combine with verbal predicates as well. Again, the interpretation depends on the type of predicate. With gradable verbs like (35a), the increase is on the scale of intensity. With other (eventive) verbs, it could be interpreted as longer (overall) duration (35b),⁸² or more occasions (35c):

⁸² Cf. section 1.3.6., where durative cases are discussed.

⁸³ The kind of interpretation that degree expressions like *hodně* ‘a lot’ in combination with verbs like *spát* ‘sleep’ (activity verbs) give rise to is ‘spend a lot of time V-ing’ rather than ‘V for a long time’. In other words, there can be interruptions as long as the ‘global amount’ of V-ing is large (cf. Doetjes 2007) and thus the type of reading cannot be strictly speaking called durative/ continuous.

- (35) a. *hodně obdivovat* [Czech]
 ‘admire a lot’
 b. *hodně spát*
 ‘sleep a lot’
 c. *hodně chodit do kina*
 ‘go to the cinema a lot’

Notice that *hodně*, like other degree expressions, combines with mass or plural predicates (34a-b), and not with singular count predicates (cf. Doetjes 1997), as witnessed by the ungrammaticality of **hodně ponožky* ‘a lot of sock’. It is harder to see this with verbs, at least in languages like English, since the verb forms are generally the same both when they refer to a single event (*go to the cinema once*) and when they refer to many events (*go to the cinema a lot*). However, sometimes, the morphology of the verb makes things more transparent, as exemplified by the following contrast found in Czech:

- (36) a. **jít hodně do kina* [Czech]
 go.DIR a.lot to cinema
 b. *chodit hodně do kina*
 go.NONDIR a.lot to cinema
 ‘go to the cinema a lot’

In (36), both forms are imperfective. The difference is that the verb form in (36a) is the so-called ‘determinate’ form and the one in (36b) is the ‘indeterminate’ form of the verb (cf. Isačenko 1968, Timberlake 2004; other terms are ‘directed’ and ‘non-directed’). In the present context, the non-directed form refers unambiguously to multiple events of going to the cinema, the directed one to a one-time event. Only the non-directed form, being interpreted as plural, is compatible with a degree expression like *hodně*. This shows that degree expressions do not create plurality but rather require it in order for the complex expression to be interpretable. This means that the modified predicate has to be either unambiguously plural or number-neutral. In the latter case, the presence of a degree modifier forces the plural interpretation by excluding the singular one.

The behavior of degree expressions is relevant for the discussion of pluractionality because cases like (36b), containing expressions like *hodně* ‘a lot’, get a ‘many events’ interpretation. Moreover, the other interpretations found with verbal predicates modified by degree expressions – longer duration and intensification (cf. (35)) – can sometimes be found in descriptions of pluractional verbs, even though less often than iteration. In principle, then, the question could be asked whether what is called pluractional morphology could possibly be reinterpreted as degree morphology. The prediction would be that the resulting interpretation would depend on the type of verbal predicate. For example, *sleep* in combination with a degree morpheme with a meaning comparable to ‘a lot’ would get an interpretation like ‘spend a lot of time sleeping’. Gradable verbs

like *love* in combination with such a morpheme would be interpreted as ‘love intensely’ and *go* in *go to the cinema* as ‘often go (to the cinema)’ etc. The question is whether the available data on pluractionals support the idea that what is called pluractional morphology is in fact degree morphology. The answer has to be negative. The reason is that, apart from the fact that it is not clear how a degree analysis would account for participant-based readings, such an analysis would predict the existence of many non-plural interpretations. This is not the case, however. In particular, genuine durative readings are hard to find with uncontroversially pluractional verbs (see subsection 1.3.6). In addition, intensification typically only accompanies event plurality and is usually not the sole meaning contribution of a pluractional.^{84,85}

Before concluding this subsection, I would like to discuss one more type of case where degree and event plurality interact in an interesting way and where it also might not be clear what brings about the plural interpretation. These are certain classes of verbs in Czech that have degree/ measure prefixes and a plural denotation at the same time. Consider the examples below:

- (37) a. Na-nosil sem židle [Czech]
 PREF-brought here chairs
 ‘He brought (a lot of) chairs’
 b. Děda po-kašlával celé odpoledne
 grandpa PREF-coughed whole afternoon
 ‘Grandpa coughed a bit every now and then/ intermittently all afternoon’

Filip & Carlson (2001) consider the prefix *na-* to be a pluractional marker.⁸⁶ Similar claims could in principle be made about the prefix *po-* in (37b), which expresses attenuation: the verb as a whole looks very much like pluractionals of the repetitive-attenuative type which will be discussed in subsection 1.4.4. However, I believe the correct interpretation of the contribution of the prefixes is rather that of ‘high degree’ in the case of *na-* and ‘low degree’ in the case of *po-*.⁸⁷ The plurality is required by the degree prefix but it is the imperfective form of the verb the prefix combines with that should be understood as its source. Recall that degree expressions in general require mass or plural denotations (cf. subsection 1.4.2.) and that one of the uses of imperfective forms in Slavic is to express iteration (cf. subsection 1.3.5.). Thus, I consider these prefixes different from pluractional markers. However, these prefixed verbs resemble the

⁸⁴ Some potential examples of ‘pure intensification’ interpretation will be discussed in the following subsection.

⁸⁵ Note that it could still be the case that some of the ‘pluractional’ cases with durative interpretation are in fact not pluractionals but rather verbs with a degree morpheme. This explanation would be quite plausible in cases in which the morpheme in question cannot be used to express participant-based plurality, for example, and especially in cases in which the morpheme has other readings that are more clearly degree-related. See Moravcsik (1978:321) for some potential cases of reduplicative degree morphology.

⁸⁶ They make the same assumption for the distributive prefix *po-*, which is different from the *po-* in (37b) and will be discussed briefly in section 1.5.1.

⁸⁷ As I argue in Součková (2004), following Filip (2000).

kind of plural verbs that will be the focus of the last two subsections of this section: cases where (high or low) degree accompanies pluractionality.

1.4.2. Intensive verbs?

The term ‘intensive verbs’, which is sometimes used to refer to pluractional verbs, especially in older literature (but also in Schaefer 1994, Garrett 2001a), suggests that these forms are used to express that the meaning of the predicate is somehow intensified. This subsection deals with the question whether the use of this term is at least partly justified. Generally, it seems clear that this is not an adequate characterization of these verbs (cf. Newman 2000). However, it is necessary to distinguish between cases where intensification is the sole meaning contribution of the given marker and those where it is an additional meaning effect that accompanies event plurality. The first type is extremely rare, even though such cases can occasionally be found (cf. Dressler 1968, Schaefer 1994, Wood 2007). The second type seems to be more common. The latter type will be dealt with in the next subsection. In this subsection, I will discuss potential cases of the first type since those are the cases in which there is no event plurality involved and for which, then, the term ‘intensive’ would be appropriate.

As already mentioned, it is generally hard to find clear cases of (pure) intensification, even though intensification is a kind of interpretation often listed as one of the meanings of pluractionals. For many examples where the use of a pluractional marker results in an ‘intensified’ interpretation the question should be asked whether the high degree interpretation is genuine or only apparent, that is, derivable from plurality. An example of ‘derived intensity’ could be the following sentence that Frajzyngier (1965) gives as an example of intensified action:

- (38) (Wata raana John yaa faadoo dàgà kân itàacee... [Hausa]⁸⁸
 ‘One day John fell off a tree...’)
 ya kuƙ-kùuje kafàrsà
 3SG.M.RELPF RED-scrape leg/foot.his

Frajzyngier translates the sentence as ‘(One day John fell off a tree) and hurt his foot very badly’. However, as already pointed out by Dressler (1968:99), the ‘intensification’ effect in this example follows rather from the multiplicity of the injuries (the leg/ foot was hurt in many places). And indeed, it seems that many examples cited in the literature as cases of intensification could be of this type, i.e. of the type where the ‘intensity’ follows from multiplicity of the (sub)events. This is particularly clear with verbs that refer to breaking, cutting, hitting etc. Nevertheless, there are cases where the high degree interpretation cannot be easily derived from plurality. An example from Yurok, where the base verb *mmry* means ‘be pretty’, is given in (39):

⁸⁸ Frajzyngier (1965:48), the glosses are mine.

- (39) Kwesi segep noohl ‘o ge’s, to’ ch’ume’y [Yurok]⁸⁹
 CONJ Coyote then LOC think CONJ how
 ‘u-mrgmry k’i we’yon
 3-pretty.ITR ART girl
 ‘Then Coyote thought, “how very pretty that girl is”’

A similar example from Niuean is given in (40):

- (40) a. Ne lika a ia ke tule e akau [Niuean]⁹⁰
 PAST fear ABS she SBJTV high ABS tree
 ‘She is afraid of being up the tree’
 b. Ne lilika a ia ke tule e akau
 PAST fear.RD ABS she SBJTV high ABS tree
 ‘She is intensely afraid of being up the tree’

Do examples like these suggest that at least some pluractionals could indeed be described as having ‘intensive’ semantics and as such they should be analyzed in terms of degree rather than plurality? The question is hard to answer because the number of undisputable degree cases is typically very small in any given language and thus it is not easy to see whether the meaning effect observed is regular, or whether these verb forms are simply lexicalized with such meanings.

1.4.3. Intensification in addition to event plurality

There are two types of cases in which one can speak of a high degree effect accompanying event plurality with pluractionals. The first type is not only very common, but actually even typical of pluractionality. It is the type of cases where the pluractional is used to refer to many, rather than just plural events:

- (41) a. Mutàanee sun fiř-fítoo [Hausa]
 people 3PL.PF RED-come.out
 ‘many people came out’
 b. Taa màm-màaree shi
 3SG.F.PF RED-slap him
 ‘She slapped him many times’

In the sentences above, the use of the pluractional implies that the number of the individual subevents is large. This type of effect could be analyzed as a high degree effect, in accordance with the observations made in subsection 1.4.1.⁹¹ The other type of cases where high degree effects are found in combination with event plurality are cases

⁸⁹ Wood (2007:192).

⁹⁰ Haji-Abdolhosseini et al. (2002:485). SBJTV – subjunctive, RD – reduplication.

⁹¹ A parallel claim is made in Henderson (2010) for Kaqchikel.

where each of the individual subevents is intensified. This can be illustrated by the following example from Hausa:

- (42) Yâraa sun rur-rùudëe [Hausa]
 children 3PL.PF RED-be.confused
 ‘The children were very confused’

The interpretation typically assigned to sentence (42) is that there was a plural event (one for each child) and each of the individual events was an event of being very confused. Note that the plurality meaning is obligatory when the reduplicative marker is used and that the high degree effect is not present in the non-pluractional form:

- (43) a. *Yaaròn yaa rur-rùudëe
 boy.the 3SG.M.PF RED-be.confused
 intended: ‘The boy was very confused’
 b. Yâraa sun ruudëe
 children 3PL.PF be.confused
 ‘The children were confused’

Example (43a) shows that the reduplicated form is incompatible with a singular subject, while sentence (43b) illustrates that the non-pluractional form does not have an intensified meaning.

Two of the meaning effects listed as typical additional properties of pluractionals in the introduction to this chapter were ‘large number of events’ and ‘intensification’ (and other degree effects). I suggested above that these two properties are in fact related. In the following subsection, I will discuss cases that are the opposite of the cases just discussed. In particular, different cases of pluractionals will be discussed where event plurality is accompanied by some notion of diminution or decrease. Before that, however, let us have a look at what the nature of the connection might be between event plurality and intensification. I give some suggestions as to how one type of meaning can evolve into the other, which will be supported by a few remarks found in the literature.

According to Wood (2007:15), “there is no necessary connection between plural number and intensity”, despite the fact that “intensive and attenuating meanings are relatively common as secondary meanings of categories indicating repetition or some other type of clearly plural event meaning”. I agree with the claim that that the connection is not necessary. However, it is interesting that pluralization and intensification often do go hand in hand in the case of pluractionals. In addition, it seems that it is natural for degree interpretations to evolve into plural interpretations and vice versa. One could speculate that markers that start out as expressing degree meanings can develop into plural markers. A possible reflex of such a development in a given language could be the existence of a limited number of pluractionals that are lexicalized with high degree interpretations. Support for this idea can be found in Wood (2007). When discussing cases of Yurok verbs with pluractional morphology and intensified meanings, Wood

(2007:193) mentions that this class of verbs is very limited “and almost all examples are from archival material”. Her speakers, when confronted with these examples found in the earlier literature either rejected the forms, interpreted them as indicating repetition, or did not see a difference between the pluractional and non-pluractional forms. In other words, for those speaker these forms were not examples of intensification.

There is also evidence for the existence of a shift from plurality to degree. The fact that plurality can be interpreted as intensification was shown already in (38), where the seriousness of the event of scraping one’s foot or leg follows from the multiplicity of injured parts. Wood (2007:193) also mentions a similar kind of reinterpretation as a possible source of intensification meanings: “[t]he emotion verbs are a possible bridging context to get from plural event meaning to intensification. Any action which when repeated has a cumulative effect could possibly lead to an intensification meaning. In Yurok the emotion verbs seem to be the most robust class of genuinely intensive meanings for the Iterative infix”. Schaefer (1994) mentions yet another possible way of the emergence of intensification meanings in pluractionals. In her discussion of Vedic ‘intensives’, she suggests that intensification can emerge as a result of iteration with a certain class of verbs. She gives as a possible development the following transition: iteration (e.g. repeated sound) → iteration + intensification (e.g. repeated sound that is louder at the same time) → intensification (e.g. louder sound).⁹² Nevertheless, note that, however plausible this type of transition might be, the marginal status of cases that involve exclusively intensification (cf. subsection 1.4.2.) seems to suggest that the last step of this type of meaning shift is not very easy. Plurality remains the core meaning of pluractional verbs even if intensification can sometimes emerge next to it.

1.4.4. Detensification in addition to event plurality

Cases of pluractionals where event plurality combines with some notion of decrease are common cross-linguistically. These cases can be divided into several subtypes. Perhaps the most common subtype can be represented by the English verb *nibble*. Verbs of this type involve repetition combined with diminution: the events that are repeated are basically ‘smaller’ copies of the event referred to by the base verb. Note that these cases in fact combine meanings translatable as ‘a little’ and ‘a lot’ within a single verb: the result is small events repeated many times.⁹³ Cusic (1981:81) calls this type ‘diminutive’: “the repetition decreases the size or importance of the units of action, as if to keep a constant overall quantity while increasing the number”. Perhaps a more adequate label is ‘repetitive-attenuative’ (cf. (22b)). This type can be represented by the following example:

⁹² The transition from iterative to intensified meanings, as suggested by Schaefer (1994), involves a stage where plurality (iteration) combines with intensification, which is a type of interpretation illustrated in the Hausa example (42) above.

⁹³ This means that these cases also illustrate the ‘large number of events’ property of pluractionals, discussed in the previous subsection.

- (44) a. kočisneki [Sierra Nahuat]⁹⁴
 ‘wants to sleep’
 b. kokočisneki
 ‘continually wants to catch little naps’

This type of verbs can also be found in many languages that are generally not considered to have pluractional verbs, like Dutch, French and Italian. The following examples from French and Italian show a very similar kind of effect:⁹⁵

- (45) a. mordiller mordre [French]⁹⁶
 ‘to nibble’ ‘to bite’
 b. piagnucolare piangere [Italian]
 ‘to whimper’ ‘to cry’

Cusic (1981) mentions a number of other kinds of plural verbs whose interpretations are related to decrease (the plural meaning is not always very clearly present, however). One of them is the ‘tentative’ type:

- (46) a. ce:’gol [Quileute]⁹⁷
 ‘he pulled’
 b. ciye:gol
 ‘he pulled a little’

Cusic’s (1981:82) characterization of tentative readings is the following: “the action is performed half-heartedly or with less effort than expected”. Another from this family of readings is the ‘conative’ reading: “repetitive action falls short of producing some desired result” (Cusic 1981:82):

- (47) a. barar [Saho]⁹⁸
 ‘to fly’
 b. barrar
 ‘to flutter’

The last type are the ‘incassative’ cases: “there is no attempt to do anything in particular, merely an aimless or undirected activity” (Cusic 1981:84):

⁹⁴ Key (1960:131), as quoted by Cusic (1981:82).

⁹⁵ According to Tovená & Kihm (2008), these cases do not represent real derivations. Some of their reasons for this claim are the lack of the simple form in many cases, the large number of different phonological strings realizing the pluractional pseudo-suffix, together with the unpredictability regarding which phonological string is used in any given case. Note also that comparable verbs can be found in other European languages as well; cf. the Czech example from in (37b) involving the verb *pokašlávat* ‘cough a little every now and then’.

⁹⁶ Tovená & Kihm (2008:15-16).

⁹⁷ Andrade (1933/38:190), as quoted by Cusic (1981:83).

⁹⁸ Tauli (1958:141), as quoted by Cusic (1981:83).

- (48) a. wit [Zoque]⁹⁹
 ‘walk’
 b. witwitnay
 ‘to walk aimlessly’

It is perhaps disputable whether all the types given by Cusic as examples of cases involving decrease should indeed be understood as involving decrease or detensification. The goal of this subsection, however, is only to demonstrate that cases in which event plurality combines with decrease do exist. As for the repetitive-attenuative pluractionals (or, the ‘diminutive’ type, in Cusic’s terms), note that those could be likened to cases of reduplicated adjectives where the semantic effect of reduplication is lowering of the degree of the property expressed by the non-reduplicated form or distributing the property in small portions all over the place (the diminutive/ dispersive interpretation, in Kouwenberg & LaCharité’s 2005 terminology):

- (49) yala-yala/ yelo-yelo [Jamaican Creole]¹⁰⁰
 ‘yellowish, yellow spotted’

Kouwenberg & LaCharité (2005:538) suggest that these cases of reduplication, which seem to involve decrease, in fact represent the same principle as cases involving increase, namely the ‘more of the same’ principle. “These J[amaican] C[reole] data provide a clue for the possible source of the diminutive reduplication: more of the same form indeed stands for more of the same meaning, but in the case of *yala-yala/ yelo-yelo*, more means many occurrences distributed over a single surface”. This resembles very much the way the repetitive-attenuative type of pluractionals is often characterized. In other words, Kouwenberg & LaCharité’s (2005) formulation, just like the way Cusic (1981) characterized these cases,¹⁰¹ makes it clear that the notion of decrease or detensification is tightly connected to the main meaning contribution of these forms, which is plurality.

1.4.5. Conclusion

This section was devoted to a discussion of the relation between pluractionality and gradability. The two phenomena are connected in several different ways. First, degree semantics could in principle be considered an alternative to plurality in explaining some of the facts. However, there is strong evidence that pluractional verbs should be analyzed in terms of event plurality rather than degree. Second, the connection between pluractionality and gradability is manifested by the existence of degree effects accompanying event plurality. One type of cases is the type where the meaning effect added to event plurality is high degree or intensification. The other type is the opposite

⁹⁹ Wonderly (1951:157), as quoted by (Cusic 1981:84).

¹⁰⁰ Kouwenberg & LaCharité (2005:538).

¹⁰¹ According to Cusic (1981:81), “the repetition decreases the size or importance of the units of action, as if to keep a constant overall quantity while increasing the number”. Cf. also Tovená & Kihm (2008).

of the first one: event plurality is accompanied by detensification or diminution. The fact that the same type of marker can give rise to two contradictory interpretations might seem rather puzzling. In Chapter 3, I will suggest that the two types of degree-like effects, as manifested in Hausa, have different sources.

1.5. Distributive and collective interpretations

The present section has two goals. One is terminological, namely to point out that some of the important terms used in discussions of pluractionality are used in different senses and show what the different uses are. These terms are ‘distributive’ and ‘collective’. The other goal is to indicate how these notions relate to pluractionality.

1.5.1. Distributive interpretations

When nominal or verbal plurality is discussed in the descriptive literature, the term ‘distributive plural’ is sometimes used. What is usually meant by this can be seen from the following quote from Boas (1911a:37-38):

“It would seem that, on the whole, American languages are rather indifferent in regard to the clear expression of plurality, but they tend to express much more rigidly the ideas of collectivity or distribution. Thus the Kwakiutl, who are rather indifferent to the expression of plurality, are very particular in denoting whether the objects spoken of are distributed here or there. When this is the case, the distribution is carefully expressed. In the same way, when speaking of fish, they express by the same term a single fish and a quantity of fish. When, however, they desire to say that these fish belong to different species, a distributive form expressing this idea is made use of.”

From this quote it can be seen that the term distributive plurals usually expresses notions like distribution ‘here and there’, belonging to ‘different kinds of’ etc. Some examples were already given in section 1.2. Two of them are repeated below:

- (50) a. *buron-buron* [Malay]¹⁰²
 ‘various birds, birds of all sorts’
 b. *dáḍ-ḍaikuḍ* [Papago]¹⁰³
 ‘several chairs from several households’

Distributive forms are not only found with nouns but also in the verbal domain:

¹⁰² Gonda (1949:178), as quoted by Niepokuj (1997:67).

¹⁰³ Ojeda (1998:249).

- (51) a. cickpan cíkpan [Papago]¹⁰⁴
 ‘to work at more than one location’ ‘to work at one location’
- b. mijaja’wi mija [Mono]¹⁰⁵
 ‘to go separately’ ‘to go’
 N.B. in different directions or at different times
- c. tyhkanawi tyhka
 ‘to eat in several places’ ‘to eat’

However, as Lasersohn (1995) points out, the way the term ‘distributive’ is used in the descriptive literature differs from the way it is used in the formal semantics literature. The term distributive, as used in formal semantics, is not unrelated to the one described above but it is not identical to it either. Basically, a predicate applies distributively to its plural argument if it applies to every atomic entity in that plurality (cf. Scha 1981, Link 1983, Schwarzschild 1996, Landman 2000 among others).¹⁰⁶ Consider the following sentence, for example:

- (52) The boys carried the piano upstairs

The sentence in (52) has a distributive reading, according to which the predicate *carried the piano upstairs* holds of every atom in the plurality denoted by *the boys*. In other words, the sentence is true if every boy carried the piano upstairs on his own. The sentence in (52) is actually ambiguous: it also has a different reading, a collective one, according to which the predicate *carried the piano upstairs* holds of the whole group. On that reading, the sentence is true if the boys carried the piano upstairs together, in a collective action. Collective readings will be discussed in more detail in the next subsection. Apart from ambiguous cases like the one above, there are also inherently distributive predicates like *walk* or *sleep*. These predicates always hold of every atom in the plurality if they hold of the plurality as a whole. On the other hand, there are inherently collective predicates like *gather* or *meet* that only hold of collections.

In search of an answer to how the two notions of distributivity relate to pluractionality, let us start by looking at a verbal prefix that is also called ‘distributive’, namely the Czech verbal prefix *po-*. The sense in which this prefix is distributive is not exactly the same as either the one used in the descriptive literature, or the one used in formal semantics. Rather, it seems to be a combination of the two. Consider the following examples:

¹⁰⁴ Ojeda (1998:251).

¹⁰⁵ Lamb (1957:274), as quoted by Houser et al. (2006:6).

¹⁰⁶ An example of how this can be captured is given below (Schwarzschild 1996:61):

(i) $x \in \llbracket D(\alpha) \rrbracket$ iff $\forall y [(singularity(y) \wedge y \in x) \rightarrow y \in \llbracket \alpha \rrbracket]$

D stands for ‘distributive operator’ but the actual technical details of the how distributivity should be captured do not play a role here.

- (53) a. Marie po-zavírala okna [Czech]
 Marie DISTR-closed windows
 ‘Marie closed (all) the windows one by one’
 b. Jablka po-padala
 apples DISTR-fell
 ‘The apples fell down one by one’

The sentence in (53a) says that Marie closed all the windows present in the context, one by one. Sentence (53b) can be used in a situation in which (all) the apples (on a tree) fell down, in several successive apple-falling events. Notice that even though the predicates in (53) can be said to be distributive in the formal semanticists’ sense,¹⁰⁷ this type of distributivity is not sufficient to make the use of *po*-verbs felicitous. For instance, if all the apples fall down at the same time, it is true of each one of them that it fell down and by that the predicate counts as distributive, given that verbs like *fall down* are inherently distributive. However, such a context would not allow for a felicitous use of (53b): the apples cannot fall down simultaneously if the situation is described by the verb *popadat* (cf. also Filip & Carlson 2001).¹⁰⁸ This kind of distributivity can perhaps be better described by using expressions like ‘individually’ or ‘one at a time’, rather than simply ‘each’. Thus one could say that distributive *po*-verbs are distributive in the sense used in formal semantics but in addition they are also distributive in the descriptivists’ sense, requiring a distribution of the individual events in time.

Turning to pluractional verbs now, Kaqchikel pluractionals of the type illustrated below seem to be strictly distributive (in the formal semanticists’ sense):

- (54) X-e'-in-q'ete-la ri ak'wal-a' [Kaqchikel]¹⁰⁹
 CP-A3p-E1s-hug-PDIST the child-PL
 ‘I hugged the children individually’

For the sentence to be felicitous, the children have to be hugged strictly individually. If any subset of the children receives a group hug the pluractional cannot be used (Henderson 2010).¹¹⁰ In this case, it also means that the hugs are distributed in time. As

¹⁰⁷ It is probably more precise to analyze these predicates as forcing ‘near-distributivity’, rather than strict distributivity. In (53a), the most natural scenario is indeed the one in which the windows are closed one by one. Nevertheless, if two of them are closed simultaneously, the sentence can still probably be uttered felicitously. Similarly, it is possible that not all the apples in (53b) fell down – perhaps one or two stayed on the tree.

¹⁰⁸ Filip & Carlson (2001) analyze distributive *po*- (and cumulative *na*-) as a pluractional marker, which in my view is not an adequate way to look at it. The reason is that the distributive prefix itself is not responsible for the plural interpretation of the verb. Rather, it is the imperfective form of the verb (*zavíra(t)*), as opposed to the perfective *zavřít(t)* – cf. also the discussion around the examples in (37)). The distributive prefix *po*- requires plurality, it operates on it, but does not create it (cf. Romanova 2006) and thus it should not be considered pluractional.

¹⁰⁹ Henderson (2010:43).

¹¹⁰ Not all pluractionals are distributive in this sense. It will be shown in Chapter 2 that Hausa pluractionals do not require distributivity to atomic individuals.

can be seen from the following example, however, the distribution in time and/or space is typical for pluractionals even if it is not required by world knowledge:¹¹¹

- (55) Mutàanee sun fĩf-ńfĩtoo [Hausa]
 people 3PL.PF RED-come.out
 ‘Many people came out’
 N.B. either one by one/ in small groups or out of different houses

For the pluractional form to be felicitous, it is not necessary for the people to come out necessarily one by one, it could also be in smaller groups. Alternatively, if the subevents are simultaneous, it is understood that the people came out of different houses. However, for the pluractional form to be acceptable, the people should not simultaneously come out of a single house. This is so despite the fact that predicates like *ńfĩtoo* ‘come out’ are inherently distributive. Thus, similarly to the case of the distributive prefix *po-*, the individual events should be distributed in time and/or space, i.e. the pluractional predicate is distributive in the descriptivists’ sense.¹¹²

To summarize, distributivity is an important notion in the study of pluractionality. I have shown that the term distributive is used in at least two different senses in the literature and that they are both relevant for the study of pluractionality. At least some pluractionals are distributive in the formal semanticists’ sense (Kaqchikel). What seems to be more characteristic of pluractionality, however, is that the individual subevents of the plural events pluractionals refer to are distributed in space and/or time or they are clearly individuated in some other way. In fact, distributivity in this sense can be taken to be one of the typical meanings pluractionals express in addition to (simple) event plurality (cf. the characterization of the ‘typical pluractional’ in (2)).

1.5.2. Collective interpretations

Distributivity can hardly be discussed without mentioning collectivity at the same time. However, there are two further reasons for discussing collectivity in the context of pluractionality. First, some forms that are called ‘collective’ in the literature might be pluractional in nature. The second point is more general: it is necessary to understand collective interpretations to know where to draw the line between singular and plural interpretations. As will be shown below, however, authors do not quite agree on how collective interpretations should be defined.

In order to detect collective readings, collective adverbials are often used. The most common one is probably *together* but there are others like *as a group*, *collectively* etc. In (56) several different uses of *together* from Lasersohn (1995, chapter 11) are listed.

¹¹¹ This type of example will be given a more detailed analysis in Chapter 3, section 3.5.3.

¹¹² For a similar case cf. also Matthewson (2000) and her description of the pluractional-like distributive element *pelpála7* in St’át’imcets.

- | | | |
|------|--|-----------------------|
| (56) | a. John and Mary lifted the piano together | COLLECTIVE ACTION |
| | b. John and Mary sat together | SPATIAL PROXIMITY |
| | c. John and Mary stood up together | TEMPORAL SIMULTANEITY |
| | d. John and Mary went to the movies together | SOCIAL ACCOMPANIMENT |
| | e. John and Mary work together | COORDINATED ACTION |

Even though all the examples given here might be taken to represent ‘collective’ readings in a broad sense, only (56a) refers to true collective action. In fact, predicates like *stand up* or *go to the movies* are inherently distributive predicates, hence, no true collectivity is even possible (Lasersohn 1995:194):

“Unlike lifting a piano or lifting 500 pounds, going to Cleveland or to the movies is not something a group of individuals can do without the individual members of the group also doing it. That is to say, going somewhere is not something a group can do in authentically collective manner; *go* is a lexically distributive predicate.”

Basically the same approach to collective action can be found in Landman (2000): collective predication is singular predication – a semantically singular predicate applies to a group atom. In sentences like (56a) above, the NP *John and Mary* shifts its interpretation from a sum, a plural entity, to a group, a singular entity, and as such can participate in singular predication. Inherently distributive predicates only have individual atoms in their extension, not group atoms, which means that they cannot be interpreted collectively. Thus, also for Landman, only (56a) would be a true collective action, as the predicates in the other sentences are inherently distributive.

Kratzer (2003) has a slightly different view on collectivity. Predicates like *sit together*, *stand up together*, *go to Brazil together* (i.e. cases corresponding to (56b-d)) are all collective for her as well. Her account of collectivity relies on the notion of ‘substantive groups’ (Kratzer 2003:34).¹¹³

“With activities like sitting, standing up, or going to Brazil, spatial proximity of the agents and temporal closeness and coordination of their actions contributes essentially to establishing them as substantive groups, and their actions as collective actions.”

Thus, for Kratzer, the line separating collective action from other cases is drawn differently: at least all of (56a-d) are considered collective, probably including (56e) as well.

¹¹³ Kratzer characterizes collective events and states as follows: “Actions by substantive groups satisfy the Single Agent Constraint, and states of substantive groups satisfy an analogous Single Possessor Constraint” (Kratzer 2003:32).

Faller (2008) lists a number of different pluractional markers used in Cuzco Quechua, one of them, *-(pu)na-*, being a morpheme that can express ‘joint action/accompaniment’.¹¹⁴

- ¹¹⁴ Treating *-(pu)na-* as a separate morpheme is not unproblematic, as it never occurs by itself but only in combination with *-ku-* (Willem Adelaar, p.c.; the form of the morpheme is rather *-(pu)naku-*; Fallér herself mentions the (almost) obligatory co-occurrence of *-(pu)na-* with *-ku-*). Nevertheless, the point is probably still valid that verbs containing the sequence *-(pu)naku-* are pluractionals that combine the notion of event plurality with what could be labeled as ‘accompaniment’.

¹¹⁵ (Faller 2008:4). PA – pluractional.

(58) Kelew hes ho helomey-e'm-o'w? [Yurok]¹¹⁶
 2PL INTERR PST dance-COLL-2PL
 'Have you folks been dancing?'

To summarize, I suggest that in order to understand the conditions under which pluractional verbs can be used, at least true collective action should be distinguished from other kinds of ‘collective’ readings. If pluractional verbs refer to plural events the event expressed by them cannot be truly collective because those are presumably singular. On the other hand, other types of ‘collectivity’ are not necessarily excluded and in fact, it seems that some pluractionals might actually require a certain kind of ‘togetherness’ to be present in the situation, despite the participants being involved in their own events, as discussed above in relation to the Cuzco Quechua *-(pu)naku-* verbs and the Yurok ‘collective’ form.

1.6. Internal distinctions

¹¹⁶ Wood (2007:163).

distinctions that have been made within pluractionality. The first distinction to be discussed is the distinction between event number and participant number, which was introduced by Corbett (2000). The second distinction, also commonly accepted in the literature, is the distinction between event-external and event-internal pluractionality, originating in Cusic (1981).

1.6.1. Event number vs. participant number

Corbett (2000), makes a distinction between event and participant number. He uses the term ‘event number’ to refer to ‘multiple’ events, which basically means repeated events.¹¹⁷ The term ‘participant number’, by contrast, refers to cases of verbs that require multiple participants. Corbett compares these cases to what he calls classificatory verbs.¹¹⁸ Classificatory verbs are verbs that are semantically compatible with a restricted set of nouns. For instance, a given verb may combine only with nouns referring to round/ flat/ live objects as illustrated in (59). Classificatory verbs can be found e.g. in Amerindian languages.¹¹⁹ Verbs that are marked for participant number are similar in the sense that they are compatible only with certain nouns: nouns referring to plural objects. Thus, the verb form in (59d) combines with plural objects, “whether live or not, round or flat” (Corbett 2000:248).

- (59) a. l^voy [Klamath]¹²⁰
 ‘to give a round object’
 b. n^ooy
 ‘to give a flat object’
 c. ks^voy
 ‘to give a live object’
 d. sʔewan?
 ‘to give plural objects’

¹¹⁷ It also covers cases that Corbett describes as ‘continuous repetitive action’, an example of which would be *patter*, or ‘durative iteration’, represented by *gnaw*.

¹¹⁸ This is an idea found already in Boas (1911b:381); cf. Durie (1986).

¹¹⁹ Cf. also Mithun (1999:84-5): “A large number of North American languages show lexical distinctions of number. The Koasati verb roots contain number specification as part of their basic meanings. The Koasati verb *wali:na*, for example, is used for a single person or animal running alone, while the verb *tólkan* is used for a group running together. The two verbs denote what are categorized as different kinds of events. (A few English verbs also imply a plurality of participants, such as *stampede* or *scatter*, though the lexicon has not developed in the same systematic way.) The verbs that show such alternations tend to represent situations in which the number of participants is viewed as significantly affecting the nature of the action or state [...]”. Mithun (1988:214) also points out that these pairs of verbs are not related by ‘suppletion’, which is the term sometimes found in the literature. Suppletion is an allomorphic alternation, but these verbs are not related inflectionally. Rather, she uses the term ‘stem alternation’ (and in Mithun 1999 ‘verb alternation’) and takes it to be a relation between two separate lexical items.

¹²⁰ Barker (1964:176), as quoted by Mithun (1988:214-215).

Corbett notes that some languages have both types of verbal number and may use the same formal device for both. In spite of that, he considers event number and participant number two distinct types of verbal number. Below I will argue, however, that it is probably more adequate to treat cases like (59d) as a phenomenon distinct from pluractionality. Once these cases are excluded from pluractionality, there might be little evidence for making a fundamental distinction between event and participant number.

Wood (2007) calls verbs comparable to the one in (59d) ‘argument-numbered’ or ‘plural-argument’ verbs. These are verbs that take plural arguments and have singular argument counterparts, which usually have a different stem:

- | | | | | |
|------|----|----------------|----------------|---------------------------|
| (60) | a. | mok’vdeba | daixocebian | [Georgian] ¹²¹ |
| | | ‘someone dies’ | ‘they die’ | |
| | b. | chyuuk’wen | rek’iin | [Yurok] ¹²² |
| | | ‘to sit’ | ‘to sit (pl.)’ | |

As Wood points out, these (pairs of) verbs represent a limited set in any language. They are often e.g. verbs of motion or posture. In Wood’s view, these verbs are potentially related to pluractionals but distinct from true grammatical pluractionality. This is a view that I adopt here as well. As a consequence, I conclude, together with Wood (2007), that the category of participant number, as discussed by Corbett, might in fact comprise two rather different types of verbs. One type would be ‘plural-argument’ verbs of the type illustrated in (60). These are indeed comparable to classificatory verbs, as suggested by Corbett (2000) and others before. These verbs are quite different from regular pluractional verbs by not being derived by productive morphological markers. It is even possible to compare plural-argument verbs to pairs like the English *kill* vs. *massacre*, where the two forms are morphologically unrelated. The other type would be pluractional verbs derived (more or less) productively and regularly which refer to events involving plural participants. I suggest that this latter type does not need to be distinguished from event number. Pluractional verbs express event plurality and there is no reason to assume that the plurality cannot in principle be manifested as a plurality of participants, locations and times alike. In other words, it is no coincidence that many languages use a single marker for iterative/ temporal and participant-based cases.^{123,124}

¹²¹ Aronson (1990:406), as quoted by Wood (2007:46).

¹²² Garrett, Blevins & Conathan (2005), as quoted by Wood (2007:46).

¹²³ Corbett (2000:246) expresses the intuition behind distinguishing event and participant number by saying that “there is a difference between one singer singing a song (once or several times) and several singers singing it: singing in a choir is different from singing a solo”. One can add to this, however, that singing in a choir is not the only possible way in which many people can be involved in an event of singing. They could also sing the song one by one, at different times, which then, just like in the case of one singer singing a song repeatedly, would simply be many events of song-singing.

¹²⁴ Another piece of evidence for the suggestion the two types of ‘participant number’ are distinct from each other comes from the fact that some languages have both productive participant-based pluractionals and a limited set of pairs of verbs of the type illustrated in (60). Cf. Newman (1990:57): “In addition to the normal

Nevertheless, things might be more complicated than this. Newman (1990) suggests that pluractionals in present-day Chadic languages derive from two distinct derivational categories in Proto-Chadic: ‘iteratives’ and ‘pluractionals’. Those that he calls ‘iteratives’ correspond to Corbett’s event number. Newman reconstructs the marker as a suffix **-tV*. The category labeled as ‘pluractionals’ corresponds to Corbett’s participant number. For this category it is much less clear what the Proto-Chadic marker was but the most likely possibility is prefixal CV-reduplication. Considering that both of these categories were presumably formed regularly, by distinct markers, this could be seen as evidence for Corbett’s distinction. Note, however, that it is possible to find iterative, frequentative or habitual affixes even in languages that do not have pluractional markers in a stricter sense (e.g. in Slavic). Therefore, morphemes that mark exclusively iteration, even in pluractional languages, could be considered aspectual, rather than pluractional. This seems to be the case in Tangale, for example. According to Newman (1990), quoting Kidda (1985), Tangale has two different derivations, just like Proto-Chadic. One derivation is called iterative by Newman and it is described as marking repeated action. The other one marks plurality of objects but also frequentative action. This could be taken to mean that only the second marker is a genuine pluractional marker (expressing both event and participant number) and the first one is an aspectual morpheme.

To conclude, I suggest that it is hard to find convincing evidence for making a fundamental distinction between event and participant number. The clearest cases of pluractionality are cases where the plurality of events can be manifested in a variety of ways: as iteration, by multiple participants, locations etc. If a language has verb forms that express exclusively participant number these might be what Wood (2007) calls plural-argument verbs, which should probably not be considered pluractional. Similarly, if a language has a form that expresses exclusively iteration and thus could be considered an exponent of Corbett’s event number only, it is always a question whether the form is actually aspectual in nature, rather than pluractional. In addition, it would be rather artificial to distinguish between the two types of verbal number in languages like Hausa where the same pluractional form can express both types of plurality and where it would actually be hard to clearly separate them, as will be shown in Chapter 3.

1.6.2. Event-external vs. event-internal pluractionality

As shown in the previous subsection, Corbett (2000) considers the main distinction within verbal plurality to be the distinction between event and participant number. However, other researchers see the main split somewhere else. For Cusic (1981), Wood (2007) and others the main distinction is the distinction between event-internal and event-external plurality. Cusic distinguishes ‘phases’, ‘events’ and ‘occasions’. Based on this hierarchy he defines event-internal and event-external plurality. Event-internal

pluractionals, Podoko, like a number of other Chadic languages, also has a few suppletive plural stems (e.g. ‘kill’ sg *ked-*, pl *pahl-*)”.

plurality refers to plurality of phases within a single event: “the units of action are conceived of as confined to a single occasion, and to a single event on that occasion” (Cusic 1981:78). An example is *nibble* in English. By contrast, in the case of event-external plurality, the events are many and either distributed over multiple occasions or restricted to a single one: “the units of action are potentially distributable, though not necessarily distributed, over multiple occasions” (Cusic 1981:79). *Bite repeatedly* or *always bite* might be given as examples.^{125,126} Cusic’s system will be discussed in more detail in section 1.8.1.

The definitions of event-internal and event-external plurality given by Cusic might seem straightforward but in fact it is not completely clear where the division line between the two types of cases should be drawn. The case of controversy are pluractional verbs derived from semelfactives with meanings like ‘knock’, ‘hit’, ‘scratch’, ‘kick’, ‘slap’ etc. These verbs, in their plural form or use, refer to a series of usually quickly repeated short events: repeated knocking, hitting or kicking. I will refer to these verbs as the *knock*-type verbs and I will contrast them with the *nibble*-type verbs, which differ from the *knock*-type verbs in that the same verb stem cannot be used to describe the subevents forming the plural event. To use English for illustration of the contrast, notice that the verb *knock* can be used to describe both a single knock and a series of knocks (as in *he knocked on the door*) whereas *nibble* can only describe a plural event, a series of small bites, and the individual subevents have to be described by a different predicate, for example *take a small bite*.¹²⁷ English is not a pluractional language, however (the *-le* suffix is not productive anymore), thus it is better to look at corresponding examples in other languages. The form in (61a) can be taken as an example of the *nibble*-type. (61b) is an example of the *knock*-type:

- (61) a. *nibble*-type
 barrar barar [Saho]¹²⁸
 ‘flutter’ ‘fly’
 b. *knock*-type
 bubbùgaa bugàa [Hausa]
 ‘hit repeatedly’¹²⁹ ‘hit’

¹²⁵ Other terms Cusic (1981) uses to talk about the distinction are ‘repeated’ events (for event-external plurality) and ‘repetitive’ events (for event-internal plurality). This terminology, however, only applies to cases of temporal pluractionality.

¹²⁶ The three levels – phase, event and occasion – are not reflected by a three-way distinction, however. According to Cusic, event-level and occasion-level repetition are commonly expressed by the same form.

¹²⁷ The English verb *nibble* is not the best example of this type. Apart from the fact that the *-le* derivation is not productive anymore, the main reason is that at least some speakers can use *nibble* to refer to a single small bite. A better example would be the French *mordiller* ‘nibble’ (< *mordre* ‘bite’). However, I will continue using *nibble* as the label for the type, since this example is commonly used in the literature.

¹²⁸ Tauli (1958:141), as quoted by Cusic (1981:83).

¹²⁹ Note that this is not the only possible interpretation of the form: participant-based interpretations are also possible.

In (61a), the pluractional form is derived by gemination. It is an example of a *nibble*-type pluractional: the individual subevents cannot be described by the same verb stem, the simple verb *barar* ‘fly’, since they are not complete events of flying. Rather, they are quickly repeated smaller events of wings moving up and down, as if they were attempts to fly. By contrast, in (61b), the individual subevents of the plural event referred to by the pluractional can be described by the same verb stem, the verb *bugàa* ‘hit’.

Coming back to the controversy around the status of the *knock*-type verbs, the division between event-external and event-internal plurality is unclear already in Cusic (1981). According to his definition these cases should be considered event-external, as the “units of action” are potentially distributable over multiple occasions. However, a complicating factor is that even though the individual knocks of repeated knocking do not have to be restricted to a single occasion, they typically are. In fact, Cusic himself mentions cases of the *knock* type as examples of event-internal plurality (the Russian *stuchat* ‘hammer/knock’).¹³⁰ In contrast to the unclear classification of the *knock* type in Cusic’s system, Wood (2007) is explicit about considering these pluractionals event-internal. The main reason is that the individual subevents of repeated knocking, for example, are perceived as belonging together, as forming a kind of whole. In Wood’s view, “event-internal pluractional categories provide a construal which groups repeated occurrences (i.e. profiles the whole), where event-external pluractionals profile the individual occurrences at the expense of the higher-order whole” (Wood 2007:95). Factors favoring grouping of occurrences – repetitions – are (temporal and spatial) proximity, similarity (of the repeated events), common goal or completion, common cause and typical or inherent repetition. Thus, the main argument is cognitive by nature.¹³¹

For Wood (2007), just like for Cusic (1981), the distinction between event-external and event-internal pluractionals is the most basic distinction within pluractionality (verbal plurality). This predicts that there should be languages that make use of different pluractional markers for the two types. In fact, Wood (2007), following Garrett (2001a), claims that Yurok is such a language. The formation arguably expressing event-external plurality is called ‘iterative’ (-eg-) and the formation expressing event-internal plurality (reduplication) is called ‘repetitive’.¹³²

¹³⁰ It should be noted that *stuchat* ‘is not a pluractional verb. It is simply an imperfective form that can have both the iterative as well as the progressive meaning.

¹³¹ As for linguistic evidence, Wood argues that pluractionals of the *knock* type, just like those of the *nibble* type, can only take singular or collective arguments. Nevertheless, she does not show convincingly that this is indeed true for her Yurok data that she classifies as event-internal.

¹³² The division into the two pluractional meanings does not match the ‘repetitive’/ ‘iterative’ division perfectly, however; cf. Wood (2007).

- (62) a. *event-external*
 Yok legaayo' ku mewihl ITERATIVE [Yurok]¹³³
 here pass.ITR ART elk
 'The elk come through here'
- b. *event-internal*
 Kich pegpegoh ku 'yohlkoych' REPETITIVE
 PERF split.REP ART log
 'I made the log into kindling (split it multiple times)'

The sentence in (62a) describes an event that is repeated over an extended period of time. Example (62b), on the other hand, involves a rather quick repetition of log-splitting events. Notice that the example of the event-internal formation involves a verb of the *knock*-type, as the vast majority of Wood's 'repetitive' examples do. Even though Wood gives no (clear) examples of the *nibble*-type pluractionals, those would be clearly considered event-internal as well, as in such cases the individual subevents form a (perceptual/ cognitive) whole even more clearly.¹³⁴

A different view is taken by Tovená & Kihm (2008). In their paper, the *knock* type is explicitly described as hard to classify as either event-internal, or event-external: these verbs constitute a special case because the individual subevents can be described by the same verb. By contrast, the *nibble* type is clearly event-internal. The following examples from French and Italian are like *nibble*. Tovená & Kihm analyze them as event-internal pluractionals:

- (63) a. chantonner chanter [French]¹³⁵
 'hum' 'sing'
- b. mordiller mordre
 'nibble' 'bite'
- c. piagnucolare piangere [Italian]
 'whimper' 'cry'
- d. dormicchiare dormire
 'slumber' 'sleep'

The *nibble* type is clearly different from event-external pluractionals – and also from the *knock* type, it should be stressed – mainly in that the *nibble*-type verbs require argument identity across phases and in that the individual phases are not easily accessible (they cannot be counted, for example). The argument identity requirement of verbs like *mordiller* 'nibble' can be described by saying that "a single nibbling cannot include little bitings by different people" (Tovená & Kihm 2008:22). If the relevant argument is the

¹³³ Wood (2007:146,148).

¹³⁴ In Greenberg (2010), the verbal forms in Modern Hebrew that are analyzed as event-internal pluractionals include cases both of the *nibble* and *knock* type.

¹³⁵ Tovená & Kihm (2008).

internal argument, *mordiller* ‘nibble’ cannot be used to describe a situation when a person takes a single small bite from different apples. The second property, the inaccessibility of the phases, can be illustrated by the following example from Italian:

- (64) Alla riunione, ha mordicchiato due volte la matita [Italian]¹³⁶
 at meeting has nibbled two times the pencil
 ‘During the meeting, s/he nibbled the pencil twice’

N.B. two internally plural events, not a plural event consisting of two bites

The sentence means that there were two events of nibbling, i.e. two internally plural events, not that the plural event consisted of two bites.

To summarize the views found in the literature, even though some authors consider the distinction between event-internal and event-external pluractionals basic, it is unclear where the division line should be drawn. In particular, it is not clear where the *knock*-type pluractionals belong. The *nibble* type is clearly event-internal. Pluractionals that describe events taking place on different occasions are clearly event-external. However, the status of the *knock* type is rather unclear. Thus, descriptively speaking, at least three (possibly more) types of pluractional verbs can be distinguished along the event-external/ internal dimension: the clear internal type (*nibble*), the repetitive type, derived from semelfactives (*knock*), and clear external cases. The answer to the question where the line between event-internal and event-external plurality should be drawn – between *nibble* and *knock*, or between *knock* and uncontroversial external cases – depends crucially on the definition of event-internal plurality one adopts. If the criterion is, for example, whether one can describe the individual subevents by the same verb stem that is used in the pluractional, the line goes between *nibble* and *knock*. If it rather matters whether the individual subevents can be grouped easily or form a whole from the cognitive perspective, then the line goes between the *knock* type and clear external cases, where the subevents have bigger ‘gaps’ between them.¹³⁷ Note also that it is possible for different languages to group different types of pluractionals differently. Some languages might have a distinct form for the *nibble*-type pluractionals, distinguishing them formally from the other types, or having these as the only type of plural verbs in fact (French and Italian). Other languages might put *nibble* and *knock* together (Modern Hebrew). Still others might fail to mark the event external vs. event-internal distinction altogether (Hausa; cf. Chapter 3). In Chapter 3 (section 3.6.2.), I will suggest an explanation for some of the variation by proposing an explanation for the variable behavior of pluractionals derived from semelfactives like *knock*.

To conclude, as in the case of the event number versus participant number distinction, the event-external versus event-internal distinction is not as simple and clear-cut as it

¹³⁶ Tovená & Kihm (2008:23); the glosses are my own.

¹³⁷ The criteria for event-internal pluractionality adopted in this thesis are presented in section 3.5.4.2. of Chapter 3.

might seem at first sight. I do believe that the distinction is of theoretical relevance, however.¹³⁸ In Chapter 3, I will discuss how the distinction applies to the Hausa data.

1.7. Limits of pluractionality

Originally, pluractionality was a term coined for languages that have dedicated markers to express event plurality, be it reduplication, (other kinds of) affixes or any other morphological option. Pluractionality was considered a phenomenon present in many Amerindian, African, or Asian languages, i.e. basically all over the world, but virtually absent in (Indo-)European languages. However, with the increased interest in the phenomenon, especially among theoretical linguists, many new cases of ‘pluractionality’ have emerged, often in more familiar languages. Thus, sometimes the term ‘pluractionality’ is used also when discussing languages that would not traditionally be considered pluractional and/or in cases where the ‘pluractional’ marker is not a morpheme. In some cases, phenomena that used to be analyzed in terms of aspect or Aktionsart, especially iterativity, are now being reanalyzed as cases of pluractionality. Basically, several types of these ‘new’ cases can be distinguished. A first type involves verbs in Indo-European languages that have been claimed by some to employ pluractional morphology. A second type would be cases where pluractionality is marked by something else than an affix on the verb, i.e. some other element in the sentence, or a special construction. A third type would be cases where event plurality is not marked at all and where it is thus only understood. In the following paragraphs these possibilities are briefly discussed one by one.

Let us start with cases of verb forms and affixes in Indo-European languages that have been analyzed as pluractional, in particular Slavic and Romance. Filip & Carlson (2001) argue that the distributive prefix *po-* and the cumulative prefix *na-* in Czech are pluractional markers. Thus, according to Filip & Carlson (2001), example (65) involves pluractionality:

- (65) Marie *po-zavírala* okna [Czech]
 Marie DISTR-closed windows
 ‘Marie closed the windows’
 N.B. all of them, one by one

Contra Filip & Carlson (2001), Romanova (2006) suggests that the distributive prefix *pere-*, the Russian counterpart of the Czech distributive prefix *po-*, does not contribute pluractionality. However, she argues that the (imperfective) stem it combines with does.

¹³⁸ Linguistic arguments should be assigned more importance than cognitive/ perceptual ones, however.

- (66) a. Sobaka pere-kusala vsex detej [Russian]¹³⁹
 dog DIST-bit^P.SG.FEM all.PL.ACC children.ACC
 ‘The dog bit all the children (one after another)’
 b. pere-kusatj ‘bite all one by one’
 c. kusatj.IMPF ‘bite/ be biting’

Thus, according to Romanova, verbs like the one in (66c), which are traditionally considered to be simply imperfective, should be analyzed as pluractional. In section 1.3.5., I argued that imperfective verbs are indeed to be interpreted as referring to plural (iterated) events in certain contexts but that that type of interpretation arises as a consequence of the imperfectivity of the stem, rather than the presence of a pluractional operator. Recall that imperfective verbs have also non-plural, e.g. progressive, interpretations. Romanova’s (2006) proposal illustrates a recent more general tendency to analyze iteratively interpreted verb forms as pluractional. Tovená & Kihm’s (2008) suggestion that the French and Italian verbs of the type *mordiller/ mordicchiare* ‘nibble’ are event-internal pluractionals has already been mentioned. As for Latin, Garrett (2001b; as paraphrased in Wood 2007:130) suggests that verbs of the type *adventāre* ‘approach’, related to *advenīre* ‘arrive’, are event-internal pluractionals where the preparatory phases of the events are repeated or extended.

Let us now move on to the second type. These are cases that have been analyzed as involving pluractionality but in which the pluractional meaning is not carried by a verbal morpheme. Instead, it is contributed by other elements in the structure. The following example from Zimmermann (2003) represents a case that is quite far from typical cases of pluractionality.

- (67) The/ An occasional sailor strolled by

Zimmermann (2003) suggests that sentences like (67) involve a pluractional operator, carried by the combination of the determiner and the adjective *occasional*. The adjective incorporates in the determiner, creating a complex quantifier, and that is how it can scope out of its DP. A case resembling the occasional construction is discussed by Matthewson (2000). She discusses a distributive element *pelpála7* in St’át’imcets (Lillooet Salish). Matthewson shows that *pelpála7* shares some core properties with pluractional markers in that it requires there to be a set of subevents which are temporally separated from each other. However, unlike more familiar pluractional markers, which are affixes on verbs, *pelpála7* may appear inside a DP (apart from having and adverbial use):¹⁴⁰

¹³⁹ Romanova (2006:226).

¹⁴⁰ Matthewson shows that *pelpála7*, even in its DP internal use, is not like *each*, though. The subevents have to be temporally separated, they cannot be simultaneous; cf. also the Czech example in (53b) where the apples have to fall down one by one, not simultaneously.

- (68) [Pelpála7 i smelhmúlhats-a] cat-an'-táli ta tíipvl-a [St'át'imcets]¹⁴¹
 [DISTRIB DET.PL woman(PL)-DET] lift-TR-TOP DET table-DET
 'The women lifted the table one at a time'

As Matthewson herself points out, *pelpála7* bears some similarity to *occasional* in the *occasional* constructions. Both *pelpála7* and *occasional* have pluractional properties and take a nominal as well as a VP argument. However, in Matthewson's formulation, *pelpála7* is claimed to be similar to pluractional markers rather than being one itself.

Another case of extending the notion of pluractionality outside its usual domain is Van Geenhoven's (2004, 2005) claim that frequency adverbs in English are overt pluractional markers. The relevant type of construction is exemplified by (69) below (Van Geenhoven 2005:120):

- (69) Bill sang the anthem once in a while/ frequently/ every now and then

Van Geenhoven proposes that frequency adverbs in English contribute pluractional star operators, comparable to those contributed by (temporal) pluractional affixes in languages like West Greenlandic (to be discussed in more detail in section 1.8.3.). Similarly, in a direct reaction to Van Geenhoven (2004, 2005), Laca (2006) proposes that Spanish aspectual periphrases with *andar/ ir* contribute pluractional operators. An example is given below:

- (70) María anda preguntando por ti [Spanish]¹⁴²
 María walk.PR asking about you
 'María is/ has been asking [repeatedly] about you'

Laca analyzes these as cases of temporal pluractionality, contributed by operators *FREQ* and *INCR* corresponding to *andar* and *ir*, respectively.

Finally, there exist analyses that postulate the existence of non-overt pluractional operators. Most notably, Van Geenhoven (2004, 2005) assumes such an operator for English sentences like the following one (Van Geenhoven 2004:168):

- (71) John hit a golf ball into the lake for an hour

On Van Geenhoven's analysis, there is a silent pluractional operator on the verb that is responsible for the repeated event interpretations.¹⁴³

The list of proposals suggesting that various phenomena in various (traditionally non-pluractional) languages should be analyzed as involving pluractionality given here is by no means exhaustive. The purpose of the paragraphs above is only to illustrate what

¹⁴¹ Matthewson (2000).

¹⁴² Laca (2006).

¹⁴³ Cf. also Alexiadou et al. (2007) and subsequent work by G. Iordăchioaia and E. Soare (e.g. Iordăchioaia & Soare 2008), Beck & von Stechow (2007), Beck (2010) where also other constructions are analyzed as containing a pluractional operator.

kinds of expressions or constructions have also been analyzed as pluractional, in other words, how much the coverage of the term has expanded recently.

To summarize the discussion on the use of the terms ‘pluractional’ and ‘pluractionality’ outside their usual domain, there is an increasing amount of literature analyzing various linguistic data as involving pluractionality that were not understood as pluractional before. This raises the question of how broad the notion should be. In this thesis, I choose an approach according to which ‘pluractionality’ is a term reserved exclusively for cases in which event plurality is marked directly on the verb. In addition, pluractionals typically have other than iterative uses, most notably they also express meanings involving plural participants. This means that constructions that express exclusively temporal meanings are probably better analyzed as aspectual in nature. As a consequence, I propose that the cases discussed in this section do not represent pluractionality in this stricter sense.¹⁴⁴ Instead, I suggest that the broader term ‘event plurality’ should be used to refer to such cases. The term ‘event plurality’ is broad enough to cover all the cases discussed in the previous paragraphs, even those where the source of the plural interpretation should be analyzed as aspectual in nature. I believe that it is useful to preserve the connection between pluractionality and other types of event plurality but it is also important to see what is specific to pluractionality as a narrower phenomenon.

In the next section, I will turn to some of the most influential theoretical accounts of pluractionality.

1.8. Theoretical accounts of pluractionality

This section introduces four theoretical accounts of pluractional verbs. I will start with a discussion of the first elaborate system proposed to capture various kinds or categories of verbal plurality, namely Cusic (1981). This study has been used since then as an important source of information on pluractionality cross-linguistically. Next, perhaps the most influential account of pluractionality will be discussed, namely that of Lasersohn (1995). Following Lasersohn’s (1995) analysis, the proposal of Van Geenhoven (2004, 2005) will be discussed. Her proposal does not make reference to events as primitives of the semantics, as Lasersohn’s does, but rather relies on interval semantics. Finally, I will present Ojeda’s (1998) analysis of distributive verbs and nouns in Papago.

¹⁴⁴ A possible exception is the *mordiller/mordicchiare* ‘nibble’ type discussed in Tovená & Kihm (2008) since these cases could perhaps be considered morphological derivations, however limited their productivity is. Note, however, that Tovená & Kihm (2008) actually argue against a derivational analysis of these cases. Cf. footnote 95.

1.8.1. Cusic (1981)

Probably the first work giving a detailed systematic account of verbal plurality and categorization of the various interpretations of plural verbs is Cusic (1981). Pluractional verbs can have a wide range of readings. Cusic (1981:74) gives the following list of possible meanings of plural verbs:¹⁴⁵

- (72) 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

To make sense of the variation in meaning, Cusic proposes that it results from the interaction of four parameters. From this interaction, a typology can be derived. The four parameters are the following: (1) the event ratio, i.e. phase/ event/ occasion, parameter, (2) the relative measure parameter, (3) the connectedness parameter, and (4) the distributive parameter.

The ‘event ratio’ parameter concerns the level at which the repetition takes place. Cusic assumes three distinct levels: ‘phases’, ‘events’ and ‘occasions’. Repetition can involve any of them. If the repetition takes place at the level of phases, the result is a ‘repetitive’ action or event-internal plurality (e.g. *nibble*). If the repetition takes place at the level of events or occasions, the result is ‘repeated’ action or event-external plurality (e.g. *read the book again and again*). Notice that Cusic’s three-way distinction between phases, events and occasions actually gives rise only to a two-way distinction in the kind of verbal plurality: event-internal vs. external plurality. As Cusic points out, repetition at the event level is rarely formally distinguished from repetition at the occasion level.

Two comments could be made here. First, if there is never a formal distinction between event- and occasion-level repetition, it seems reasonable to eliminate the occasion level as a level relevant for pluractionality. Second, Cusic only speaks of repetition. However, one can also imagine a non-temporal flavor of the event-internal vs. external distinction, e.g. with respect to the event’s participants. To give an example, a plural event of breaking something could be conceived of as targeting a single object, resulting in breaking the object into pieces. This would be a case of event-internal plurality. Alternatively, the plural event can be applied to many objects, resulting in breaking each of the objects once or several times. This would then be a case of event-external plurality. The event-ratio parameter and the distinction following from it (the distinction between event-internal and event-external plurality) are considered the most important. The other parameters serve to cross-classify these two main categories.

¹⁴⁵ “The plural verb shows, as well, certain relations we would not be likely to associate with event plurality at all: with perfectivity, causativity, and plurality of subject or object noun phrases” (Cusic 1981:74-75).

The ‘relative measure’ parameter is used for further subcategorization of verbal plurality, depending on the size of the units (phases/ events), number of repetitions, degree of effort etc. The primary distinction is between decrease and increase: in size, number of repetitions, effort or some other aspect of the event. Within repetitive action, decrease gives rise to categories like ‘diminutive’ (73a), ‘tentative’ (73b), ‘conative’ (73c) or ‘incassative’ (73d) (all exemplified already in 1.4.4.):

(73)	a.	kokočisneki ‘continually wants to catch little naps’	kočisneki ‘wants to sleep’	DIM	[Sierra Nahuatl] ¹⁴⁶
	b.	ciye:gol ‘he pulled a little’	ce:’gol ‘he pulled’	TENT	[Quileute] ¹⁴⁷
	c.	barrar ‘to flutter’	barar ‘to fly’	CON	[Saho] ¹⁴⁸
	d.	witwitnay ‘to walk aimlessly’	wit ‘walk’	INCASS	[Zoque] ¹⁴⁹

By contrast, increase can lead to ‘intensive’ (74a), ‘augmentative’ (74b) or ‘cumulative’ (74c) readings:

(74)	a.	tlatlania ‘to ask insistently’	tlania ‘to ask’	INTENS	[Nahuatl] ¹⁵⁰
	b.	corii ‘to cut a lot of wood’	cori ‘to cut’	AUGM	[Luiseño] ¹⁵¹
	c.	qwoqʷot ‘to cough something up’	qwo ‘to cough’	CUMUL	[Pomo] ¹⁵²

As for the repeated action, the relative measure parameter provides two options: “small or precise count”, and “large or indefinite count”. In the case of small or precise count, the possible categories are, for instance, ‘duplicative’ (75a), ‘alternative’ (75b) and ‘discontinuative-dispersive’ (75c):

(75)	a.	minge?tu i. ‘he (the same) came a second time’ ii. ‘he (another) came also’	min- ‘come’	DUPL	[Zoque] ¹⁵³
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¹⁴⁶ Key (1960:131), as quoted by Cusic (1981:82).

¹⁴⁷ Andrade (1933/38:190), as quoted by Cusic (1981:83).

¹⁴⁸ Tauli (1958:141), as quoted by Cusic (1981:83).

¹⁴⁹ Wonderly (1951:157), as quoted by Cusic (1981:84).

¹⁵⁰ Garibay (1961:31), as quoted by Cusic (1981:84).

¹⁵¹ Jacobs (1975:95), as quoted by Cusic (1981:85).

¹⁵² Moshinsky (1974:46), as quoted by Cusic (1981:86).

¹⁵³ Wonderly (1951:157), as quoted by Cusic (1981:89).

b.	loho:m'loho:ma't 'he goes in and out'	loho'm 'enter'	ALTER	[Tubatulabal] ¹⁵⁴
c.	sesi:ya 'he sees now and then'	se:'ya 'he sees'	DIS	[Yuma] ¹⁵⁵

Readings that involve “a large or indefinite count” are, according to Cusic, better discussed in the context of the distributivity parameter (note that these are the most typical cases of pluractionality). One case that is discussed, however, is the ‘customary-occupational-habitual’ category:

(76)	kattar 'be a robber'	katar 'rob'	OCC	[Saho] ¹⁵⁶
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The ‘connectedness’ parameter concerns the degree of continuity between the repetitions, with one extreme of the continuum being total connectedness – continuous, rather than repetitive, readings – and the other one involving discontinuous, discrete, separate actions. An example of a category representing a high degree of connectedness is the ‘durative-continuative’ reading (repetitive action readings):

(77)	yoyoweh 'they kept going'	yoweh 'they went'	DUR	[Sierra Nahuat] ¹⁵⁷
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As for the opposite end of the continuum, a low degree of connectedness can be exemplified by categories such as ‘duplicative’ or ‘alternative’ (repeated action readings; (75a-b)).

Finally, the ‘distributive’ parameter concerns how the individual actions are distributed in time or space. Cusic (1981:102) defines distribution as follows (cf. also 1.5.1.):

“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. In relation to our idea of plurality as internal complexity and external multiplicity, distributivity can be thought of as a function which takes the internally or externally complex entity, redivides it into its separate bounded units, and assigns these units to temporal loci, spatial loci, or matches them one-to-one with other bounded units.”

The possible values of the distributive parameter are: distributive in time, distributive in time and/or space, (non-distributive) and collective. The distributive parameter is an important one for Lasersohn (1995), who relies on Cusic’s descriptions to a large degree,

¹⁵⁴ Voegelin (1935:108), as quoted by Cusic (1981:90).

¹⁵⁵ Andrade (1933/38:189), as quoted by Cusic (1981:92).

¹⁵⁶ Tauli (1958:141), as quoted by Cusic (1981:93).

¹⁵⁷ Key (1960:131), as quoted by Cusic (1981: 87).

as well as for the present thesis. Nevertheless, it is also at this point that Cusic's discussion becomes less clear. One of the problematic points is that there is no value for distribution to participants, even though this is one of the most common cases.¹⁵⁸ Certain inconsistencies of Cusic's system are revealed at this point as well. First, as Cusic himself notes, the event ratio parameter was already defined in terms of repetition, which means distribution in time. However, according to the distributive parameter, this should be in fact only one of the options – at least distribution in space should be another possibility. Moreover, as Lasersohn points out, Cusic classifies some of the readings (tentative, intensive, augmentative, excessive) as non-distributive, despite the fact that he defines them in terms of repetition, that is, distribution in time. It could also be added that Cusic's use of the terms 'distributive', 'non-distributive' and 'collective' in general is not very clear.¹⁵⁹

Finally, in relation to the discussion in section 1.7., note that in Cusic's understanding, verbal plurality includes more than pluractionality as delimited in this thesis. Not only morphemes that are affixed to verbs can make them plural: "in some cases we will also want to consider certain kinds of adverbial specifications to be plural formants because of their semantic relation to the range of meanings associated with the morphologically plural verbs" (Cusic 1981:72).¹⁶⁰

To summarize, Cusic (1981) suggests that the wide range of readings available for plural verbs can be derived from the interaction of four parameters. Each of these parameters has a different role, namely, to distinguish event-internal and external plurality (event ratio parameter), set the relative size, effort, number of repetitions etc., specify the continuity among the individual events and determine whether the events are distributed to different times and/or locations, or not. Cusic's typology has been taken as a starting point by Lasersohn (1995) and others. In the next subsection, Lasersohn's analysis will be presented.

1.8.2. Lasersohn (1995)

Lasersohn devotes one chapter of his 1995 book to pluractional markers. He starts off with a remark that these morphemes are frequently discussed in the descriptive and diachronic literature but rarely in formal semantics (needless to say, that has changed since 1995). He gives a few characterizations of pluractional markers as found in the descriptive literature and concludes that "pluractional markers attach to the verb to

¹⁵⁸ Cf. also the quote above. Lasersohn (1995) hypothesizes that Cusic (1981) does not list this as a separate value for the distributive parameter because it is subsumed under distribution in space-or-time.

¹⁵⁹ Initially Cusic only claims that some of the readings are more distributive than others. In the summary of the discussion of the distribution parameter, however, he puts the 'less distributive' readings under the label 'non-distributive'. Also, the general repeated action reading is, surprisingly, taken to have a collective interpretation. Cf. also Lasersohn's (1995) discussion of Cusic's system.

¹⁶⁰ For Cusic, verbal plurality is a very broad notion. In Chapter 5, he discusses various ways in which verbal plurality can be expressed in English (e.g. by means of duration adverbials, the progressive etc.).

indicate a multiplicity of actions, whether involving multiple participants, times, or locations” (Lasersohn 1995:240). The starting point of his analysis is, then, based on the view that pluractional verbs refer to multiple events, which is an idea that can be formalized as follows:

$$(78) \quad V\text{-PA}(X) \Leftrightarrow \forall e \in X[V(e)] \ \& \ \text{card}(X) \geq n$$

A pluractional verb holds of a group of events if and only if its corresponding simple verb holds of each event in the group (and the number of events in the group/set exceeds a certain number). (78) leaves out a lot of detail, however. If one wishes to capture the range of meanings expressed by pluractionals some kind of parametrization is needed. Therefore, Lasersohn goes on to discuss various parameters along which pluractional meanings can vary. He takes Cusic’s (1981) system as the basis and attempts to capture (some of) the meanings Cusic assigns to pluractional markers, pointing out that any individual pluractional morpheme will probably show only a subset of the described readings. Lasersohn enriches the basic formula step by step. To capture the difference between repeated and repetitive events, i.e. event-external vs. event-internal pluractionality, he allows for two possibilities with respect to what predicate applies to the individual subevents: either the basic verb itself (V), or a lexically specified predicate. The first option applies in the case of repeated events and the latter one in the case of repetitive events, expressed by verbs like *nibble*. In the case of *nibble* the predicate applying to each of the subevents would not be the same verb: it would be something like *take a small bite*. This captures the event-ratio parameter of Cusic’s.

$$(79) \quad V\text{-PA}(X) \Leftrightarrow \forall e \in X[P(e)] \ \& \ \text{card}(X) \geq n$$

repeated: $P=V$

repetitive: P is fixed lexically

An important point with respect to Cusic’s use of the terms ‘repeated’ vs. ‘repetitive’ is the following (Lasersohn 1995:256; cf. also the discussion of Cusic’s system above):

“Note that although the terms *repeated* and *repetitive* specifically suggest temporal repetition, the question of whether $P=V$ is completely independent of whether the pluractional marker takes a temporal reading. We obtain an alternation even in the case of spatial readings, participant-based readings, or completely non-distributive readings.”

The distribution over participants, locations or times (the distributive parameter) is captured once the non-overlap condition is added:

$$(80) \quad V\text{-PA}(X) \Leftrightarrow \forall e, e' \in X [P(e) \ \& \ \neg f(e) \circ f(e') \ \& \ \text{card}(X) \geq n]$$

temporal distribution: $f = \tau$ (temporal trace function)

spatio-temporal distribution: $f = K$ (function that is actually a pair of functions mapping events to their times and locations)

participant-based distribution: $f = \theta$ (theta roles)

The non-overlap condition ensures that the times, locations or participants (which can all be in the range of f) of the individual events do not overlap. Then, in order to get truly separate running times, locations or participants, the non-overlap condition needs to be strengthened by adding the separateness condition, which states that e.g. each two running times or locations have to be separated by a time or location at which no event that can be described by the basic predicate takes place.¹⁶¹

$$(81) \quad V\text{-PA}(X) \Leftrightarrow \forall e, e' \in X [P(e) \ \& \ \neg f(e) \circ f(e') \ \& \ \exists x [\text{between}(x, f(e), f(e')) \ \& \ \neg \exists e'' [P(e'') \ \& \ x = f(e'')]] \ \& \ \text{card}(X) \geq n]$$

N.B. In the case of continuous readings, the separateness clause is negated:

$$\neg \exists x [\text{between}(x, f(e), f(e')) \ \& \ \neg \exists e'' [P(e'') \ \& \ x = f(e'')]]$$

(81) is the final version of the formula – the ‘skeleton of an analysis’ that is meant to cover a subset of Cusic’s readings. Lasersohn explicitly mentions that formalizing Cusic’s relative measure parameter, concerned with the size, intensity etc., of the events is no easy matter and leaves the issue open (Lasersohn 1995:255).¹⁶²

“A detailed formalization of Cusic’s relative measure parameter, concerned with the size, intensity, etc., of the events in the set satisfying the pluractional verb, would take us too far afield; this parameter involves the interaction of a wide variety of non-logical notions, not all of which seem to play the same role in the overall semantics of pluractional morphemes. As the barest start on an analysis of these notions, we might posit a series of measure functions on events, yielding values based on size, degree of effort, effectiveness, etc. We could then add an optional condition to the semantics of pluractional morphemes, requiring certain minimum or maximum values for these functions, depending on the specific reading desired. In some cases, however, it may be the setting of n , rather than the value of one of those measure functions, which is at issue.”

¹⁶¹ Lasersohn (1995:255) comments on the applicability of the separateness condition to participant-based cases: “As far as I can tell, the issue of continuity does not arise in connection to participant-based readings”. I will show in section 3.5.4. of Chapter 3, however, that the issue of continuity does arise even there.

¹⁶² For Hausa, these issues will be dealt with in the section devoted to the special character of pluractionals: section 3.7.

As mentioned in the introduction to the section, Lasersohn's analysis has been very influential. Another proposal that is often cited in the literature is one that is very similar to Lasersohn's, but in contrast to it, it does not make use of events as primitives in the theory and connects pluractionality to atelicity.

1.8.3. Van Geenhoven (2004, 2005)

Van Geenhoven's (2004, 2005) starting point is different from that of Lasersohn's. Van Geenhoven does not set out with the goal of proposing a formula that would capture all possible meanings that are found with pluractionals cross-linguistically. The main goal of her 2004 paper is to propose a new account of frequentativity.¹⁶³ Van Geenhoven interprets frequentative markers (in West Greenlandic Eskimo) in terms of temporal pluractionality (building on Stump's 1981 insight that frequentativity involves temporal distribution) and gives an interval-based analysis of these markers, which she then compares to Lasersohn's event-based semantics.

In West Greenlandic, there are several frequentative markers: *-tar-*, *-qattaar-*, *-llattaar-* for neutral, high and low frequency respectively.¹⁶⁴

- (82) a. *-tar-*
 Nuka ullaa-p tunga-a tama-at [West Greenlandic]¹⁶⁵
 N.ABS morning-ERG direction-3SG.ABS all.3SG
 saniuqut-tar-puq
 go.by-tar-IND.[-tr].3SG
 'Nuka went by repeatedly for the whole morning'
- b. *-qattaar-*
 Qaartartu-t sivisuu-mik qaar-qattaar-put
 bomb.ABS-PL lengthy-INS explode-qattaar- IND.[-tr].3PL
 'Bombs exploded again and again for a long time'
- c. *-llattaar-*
 Angu-llattaar-puq
 seal.catch-llattaar- IND.[-tr].3SG
 'He caught a seal from time to time'

Van Geenhoven proposes that the frequency marker adds two meaning components: it pluralizes the verb and it distributes the plurality of subevent times over the overall event time (in such a way that it brings in a hiatus between every two subevent times). The semantics she assigns to *-tar-* is as follows (Van Geenhoven 2004:158):

¹⁶³ Dowty (1979), Krifka (1989, 1992) being the old accounts that she directly reacts to.

¹⁶⁴ Bittner & Trondhjem (2008:23) argue that "Van Geenhoven (2004) conflates the process suffix *-qattar* with the habitual suffix *-tar*, misidentifying both as markers of 'temporal pluractionality'", which is, according to them, a contradiction in terms.

¹⁶⁵ Van Geenhoven (2004:146-7).

(83) $\text{-tar-} \Rightarrow \lambda V \lambda t \lambda x (\ast^t V(x) \text{ at } t)$

where $\ast^t V(x) \text{ at } t = 1$ iff

$$\exists t'(t' \subseteq t \wedge V(x) \text{ at } t' \wedge \text{number}(t') > 1 \wedge \forall t''(t' \subseteq t \wedge V(x) \text{ at } t'' \rightarrow \exists t'''(t'' \subseteq t \wedge (t''' > t' \vee t''' < t') \wedge V(x) \text{ at } t''' \wedge \exists t''''(t' < t'''' < t'' \vee t' > t'''' > t'' \wedge \neg V(x) \text{ at } t''''))))$$

Notice that the formula in (83) is very similar to the one in (81), that is, the analysis proposed by Lasersohn (1995). The first part of the formula says that there is more than one interval in which V holds of x . In addition, (83) also states there is a ‘hiatus’: between any two intervals at which V holds of x , there is an interval at which V does not hold of x . This part is clearly parallel to Lasersohn’s separateness condition.

As mentioned above, *-tar-* is only one of the frequency markers found in West Greenlandic. There are also *-qattaar-* and *-llattaar-*, expressing high and low frequency, respectively. Van Geenhoven proposes that these are temporal pluractional operators as well, labeled ‘flower star’ and ‘stripe star’, respectively. Compared to *-tar-*, these operators would have an additional clause in their semantics specifying whether the frequency involved is high or low (by stating that the number of subevent times is large or small: ‘number(t') is large/ small’).

Van Geenhoven compares her approach to that of Lasersohn’s (1995). She admits that the way in which she defines pluractional markers is reminiscent of his. As shown in the previous subsection, for Lasersohn, the denotation of a pluractional verb is a non-empty set of events such that every two events are separated from each other. This is very similar to how Van Geenhoven analyzes pluractionality, with the difference that she does not make use of events. According to Van Geenhoven the idea behind event semantics is to capture the similarities between the nominal and verbal domain. However, Van Geenhoven argues that it is not necessary to work with events to capture the similarities. Thus, she prefers to use an interval-based semantics. Nevertheless, it is important to note that Van Geenhoven’s goal is only to capture the semantics of temporal pluractionality, or what she calls frequentative aspect. For that an interval-based semantics might be sufficient. Lasersohn aims at covering a wider range of uses, i.e. also spatial and participant-based readings, and those are much harder to analyze without reference to events.¹⁶⁶

¹⁶⁶ There are also verb markers in West Greenlandic that express ‘succession’ (‘ V one by one’; Van Geenhoven 2004:151-2). These markers would be very interesting to look at in more detail, precisely because they are not purely temporal. On page 186-7, Van Geenhoven suggests that these markers are “instances of temporal pluractionality which express repetition and increase”, or, “temporal distribution, of a kind that goes hand in hand with the distribution of individuals”. Note, however, that examples involving distribution to event participants are exactly the type of examples for which interval semantics is not sufficient.

In relation to the question of what should be included in the notion of pluractionality, it is important to say that for Van Geenhoven, English sentences like the one in (84) also contain a pluractional operator of the type defined above in (83).

- (84) a. John found his son's tricycle in the driveway for six weeks
b. John hit a golf ball into the lake for an hour

It is a frequency operator very similar to *-tar-* in West Greenlandic, also attached to the verb, the difference being that the operator is silent in English.¹⁶⁷ In addition, languages like English also have overt markers of pluractionality, for example, frequency adverbs (e.g. *repeatedly*).¹⁶⁸

- (85) Mary discovered a flea/ fleas on her dog repeatedly for a month

This issue has already been discussed in 1.7. Including or not including cases like (84) and (85) in pluractionality is a matter of definition. In section 1.7., I argued for a more restricted use of the term.

Another important aspect of Van Geenhoven's approach is related to the issue discussed in section 1.3., namely the relation between pluractionality and aspect. In particular, for Van Geenhoven (2004:142-3), pluractional predicates are necessarily atelic: "Pluractional predicates are like mass nouns (i.e., [they have] cumulative [reference]) and it is this that makes them unbounded and therefore atelic".¹⁶⁹ This means that, in Van Geenhoven's view, frequentative readings are atelic by means of being pluractional. Van Geenhoven goes even further, however. Not only does she say that pluractional predicates are atelic but also that (all) atelic predicates are pluractional (Van Geenhoven 2004:161).

"By integrating frequentativity into the family of atelic aspects, atelicity is put in a new perspective. In particular, the source of atelicity is now identified as pluractionality, that is, as plurality in the domain of verbs. In my view, an atelic predicate is a pluractional predicate and it is this kind of predicate that is selected by an atelic adverbial."

This claim is made even more explicit in her 2005 paper where she interprets as pluractional all of the following: (silent) frequentative, continuative ('she sang continuously all night long') and gradual aspect ('he is getting bigger and bigger'), activities and states, imperfective aspect and frequency adverbs. In other words, Van Geenhoven postulates the existence of different pluractional operators for all these cases.

¹⁶⁷ Van Geenhoven (2004:154-5) comments on her approach as follows: "I thus assume that although languages differ in their morphosyntactic means to express pluractional mechanisms, these mechanisms nonetheless apply crosslinguistically. What I show specifically is that silent frequentative in English is a case of implicit pluractionality".

¹⁶⁸ The silent verb-level pluractional marker and frequency adverbs – overt markers of pluractionality – have slightly different properties – cf. Van Geenhoven (2004).

¹⁶⁹ This is a view held by some researchers and one that I have argued against in 1.3.3.

Note that in the case of activities and states, e.g. verbs like *sleep*, she talks about inherent (or lexical) pluractionality. As a result, in Van Geenhoven's view, the aspectual value of the predicate, that is, its (a)telicity, is not due to the nature of its nominal argument (as for e.g. Krifka 1989, among many others; Van Geenhoven 2004:179):

“Rather, the aspectual value is determined by the presence of an implicit pluractional marker in the first place. [...] Hence, the true source of atelicity is the cumulative nature of a pluractional predicate rather than the cumulative nature of its complement.”

To summarize, Van Geenhoven offers a new view on frequentativity and other ‘aspects’ by analyzing them in terms of (temporal) pluractionality. Among other things, she argues for a virtual identification of pluractionality and atelicity. Van Geenhoven deals basically only with temporal interpretations. She proposes an interval-based account of them, which is in fact very similar to Lasnik's event-based account. However, unlike Lasnik's proposal, Van Geenhoven's account is not suitable for participant-based cases.

1.8.4. Ojeda (1998)

The last proposal to be discussed in this section is Ojeda's (1998) analysis of the semantics of different number forms in Papago. Ojeda's paper is not primarily concerned with verbal plurality: the starting point of his discussion is the number oppositions in the nominal domain. However, as the situations in the two domains are largely parallel, the analysis is applicable equally well to nouns and verbs.

The basic fact about the number system in Papago is that it has two types of contrasts: roughly, singular vs. plural and non-distributive vs. distributive.¹⁷⁰ The number of actual number forms that express these two basic contrasts depends on the class the particular lexical item belongs to. Both nouns and verbs can thus be divided into several distinct classes depending on the particular number forms they can occur in. Basically, three types of cases can be found, both with nouns and verbs.

First, some nouns and verbs exhibit singular vs. plural contrasts of the type familiar from the English-type nominal plurals. This is the contrast between forms labeled ‘singular’ vs. ‘non-singular’ in the case of nouns and ‘unitive’ vs. ‘non-unitive’ in the case of verbs:

(86)	<i>nouns</i>		
	<i>singular</i>	<i>non-singular</i>	[Papago] ¹⁷¹
a.	bán	bá·ban	
	‘coyote’	‘coyotes’	

¹⁷⁰ Ojeda (1998) relies on descriptions in a series of studies by Mathiot (e.g. Mathiot 1983).

¹⁷¹ Ojeda (1998:248-249, 251).

*verbs**unitive*

- b. héhem
 ‘to laugh once (at
 one locations)’

non-unitive

- héhhem
 ‘to laugh more than once (at one
 or more than one location)’

Second, some nouns and verbs mark a contrast between ‘non-distributive’ (also sometimes called ‘collective’) and ‘distributive’ forms:

(87) *nouns**non-distributive*

- a. háiwañ
 ‘one or more head of
 cattle belonging to the
 same herd’

distributive

- háhaiwañ
 ‘head of cattle belonging
 to more than one herd’

verbs

- b. cíkpan cíckpan
 ‘to work (once or more ‘to work (more than once) at
 than once) at one location’ more than one location’

Finally, some verbs and nouns have a three-way distinction: singular, non-distributive plural and distributive plural. The labels used for nouns are ‘singular’, ‘plural’ and ‘distributive’. In the case of verbs the labels used are ‘unitive’, ‘repetitive’ and ‘distributive’.

(88) *nouns**singular*

- a. dáikuḍ
 ‘a single chair
 from a single
 household’

plural

- dáḍaikuḍ
 ‘several chairs
 from a single
 household’

distributive

- dáḍḍaikuḍ
 ‘several chairs
 from several
 households’

*verbs**unitive*

- habcéʔi
 ‘to say something
 for the first time
 once (at one
 location)’

repetitive

- habcéce
 ‘to say something
 for the first time
 more than once
 at one location’

distributive

- habcécce
 ‘to say something
 for the first time
 more than once at
 more than one location’

As the situation in the two domains is so similar, Ojeda (1998) proposes a mereological analysis that applies to both nouns and verbs (in the spirit of e.g. Bach 1986, Krifka 1989, who extend Link’s 1983 proposal to events). The lexical roots are assumed to denote atoms and their sums. In the case of nouns the atoms are individuals, in the case

of verbs they are events. Singulars denote atomic individuals/ events and (proper) plurals denote sums of (non-identical) individuals/ events. This is sufficient to account for the singular vs. plural contrast of the type known from languages like English. To account for the non-distributive vs. distributive contrast, the notion of equivalence has to be introduced. The idea of two individuals or events being equivalent corresponds to Mathiot's (1983) notion of belonging to the same 'locus'. Being equivalent can thus mean belonging to the same household or herd in the case of nouns (e.g. the non-distributive form in (87a)). In the case of verbs, the events are equivalent if they take place at the same location. Being non-equivalent, on the other hand, means belonging to different households, herds or locations, depending on the class of the lexical item.

Distributive forms such as those in (87) and (88) are, then, analyzed as denoting sums of non-equivalent atoms. As for the non-distributive forms, their denotation depends on whether there is a two-way or a three-way contrast. If the non-distributive forms contrast only with distributive forms, as in (87), their denotation includes both atomic individuals/ events and sums of equivalent atoms. In cases in which there is a three-way contrast between singulars, non-distributive plurals and distributive plurals, as in (88), the denotation of the non-distributive form does not include atoms.

Notice that Papago verbal forms that could be considered pluractional are of different types. A first type are the so-called 'non-unitive' forms, which are simply plural: they denote sums of (non-identical) event atoms. It is not specified whether the events are equivalent or non-equivalent, that is, whether they take place at the same location or at different locations. A second type are the 'distributive' forms which denote sums of non-equivalent events, i.e. events that take place at different locations. Finally, there are 'repetitive' forms which denote sums of equivalent events, which means sums of events that take place at the same location. What connects all the plural forms is the fact that they all denote sums of events.¹⁷²

In comparison to the other proposals presented in this section, Ojeda's analysis has several specific features. First, it is the fact that his analysis is not limited to verbal plurality. Ojeda explicitly mentions this when he compares his own analysis to that of Lasersohn's (1995), which is applicable only to verbs. Second, (non-)equivalence is a very general and flexible notion. The exact nature of equivalence relation is not specified in the semantics of distributive plurality itself.¹⁷³ This makes it possible to capture

¹⁷² In connection with the discussion in section 1.3.5., where I argued that it might often be very hard to determine whether the source of an iterative interpretation is pluractionality or aspect/ Aktionsart, note that Papago 'repetitive' and 'non-unitive' forms are clearly not aspectual. The verbal forms with iterative interpretations are to be analyzed as instantiating verbal number, as they are perfectly parallel to the nominal plural forms.

¹⁷³ According to Ojeda (1998:261), it is not essential to specify the content of the notion of equivalence, since "the notion of equivalence involved in the semantics of (non)distributives is identified not by the grammar of Papago but by other aspects of Papago culture – say, the importance of owners or makers of tools, the importance of herds of cattle, and so on".

various ‘flavors’ of distributive plurality, e.g. the ‘here and there’ type and the ‘different kinds’ type alike, without complicating the meaning of the distributive plurals themselves. Third, in Ojeda’s account, the connection between regular and distributive plurals is captured in a very elegant way. Regular plurals are described as plurals based on the notion of identity, while distributive plurals are based on the notion of non-equivalence. Identity, however, is just a special type of equivalence relation (Ojeda 1998:260):

“Now, a notion of non-equivalence on a set is nothing more and nothing less than a binary relation which is reflexive, symmetric, and transitive on the set. But identity is a binary relation which is reflexive, symmetric, and transitive on any set. Identity is, therefore, an equivalence relation. It is, in fact, the strictest form of equivalence – the one which holds only between an entity and itself. It now follows [...] that plural forms are a particular, limiting, case of distributive forms or, equivalently, that distribution is a generalization of plurality.”

In my understanding, distributive plurals are a special case of plurality, rather than the other way round, since while identity is a special case of equivalence, non-equivalence is a special case of non-identity. Nevertheless, the point is that under Ojeda’s analysis the connections between English-type nominal plurals and Papago distributive plurals (both nominal and verbal) becomes rather transparent.

This summary of Ojeda’s (1998) proposal concludes the section. From the proposals presented here, Lasersohn’s (1995) and Ojeda’s (1998) accounts played the most important role in the development of the analysis of Hausa pluractionals presented in this thesis. As such, they will be partly discussed again in section 3.9. of Chapter 3 where I compare various aspects of my proposal to other proposals in the literature.

1.9. Conclusion

Recently, pluractionality has been receiving more and more attention. The main goal of this chapter was to introduce the concept of pluractionality and delimit it with respect to related phenomena. I argued that even though there are striking parallels between nominal and verbal number (and even though it is desirable to try to find generalizations applicable to plurality in general) it makes sense to study pluractionality as a phenomenon in its own right. I also discussed the question of where one should draw the boundaries between pluractionality, aspect and gradability. I argued that sometimes it is hard to see what the source of certain interpretations is because iterativity, for instance, can be of pluractional as well as aspectual nature. Apart from arguing that there is an overlap in interpretations that plurality and aspect can give rise to, it was shown that pluractionality is independent of viewpoint aspect and (un)boundedness. The role of

degree in connection to pluractionality is important as well. One of the reasons is that cases in which plurality and degree effects cooccur in pluractionals are rather common.

The general discussion related to how pluractionality should be delimited was followed by a discussion of the terms ‘distributive’ and ‘collective’, which both play an important role in the literature on plurality. The different uses of the terms were distinguished and some suggestions were made as to how the notions relate to pluractionality. The next issue discussed was what distinctions should be made within pluractionality. I argued that there is not much evidence for making a distinction between event number and participant number. As for the event-external versus event-internal distinction, there is disagreement in the literature where exactly the boundary lies. The point of controversy are mainly pluractionals of the *knock* type. The general discussion of pluractionality was concluded by considering what the phenomena are that the term should cover, which is a reaction to the recent explosion of the use of the term. I argued for restricting the term pluractionality to cases where event plurality is signaled directly by the form of the verb and suggested that caution is required in purely temporal cases.

Finally, I presented four theoretical accounts of pluractionality. First, I described Cusic’s system. Cusic (1981) was the first in-depth study of verbal plurality and his classification of the various readings has been often quoted and used in later studies. Probably the most influential formal account, and one that takes Cusic (1981) as its basis, is the event-based account of Lasersohn (1995). Van Geenhoven’s (2004, 2005) analysis is comparable to Lasersohn’s, with the difference that her account is interval-based and as such it is not suited for participant-based cases of pluractionality. Finally, Ojeda (1998) is one of the very few proposals that treat the number distinctions in the nominal and verbal domain uniformly and discuss explicitly the relation between regular and distributive plurals.

In the next chapter, I will turn to the presentation of the data that will be analyzed in Chapter 3, namely, pluractional verbs in Hausa.

