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## Pluractionality in Hausa

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## **Chapter 3: Analysis**

### **3.1. Introduction**

In this chapter I propose an analysis of the semantics of pluractional verbs in Hausa. I will argue for an approach that is in some respects quite different from other approaches found in the literature on pluractionality. This difference will be justified by the specific properties of Hausa pluractionals. Among the properties of Hausa pluractionals that motivate this move, the most prominent are the lack of simple iterative readings and the extent of inter-speaker variation. I will not argue that this analysis is applicable to all pluractionals in all languages. Nevertheless, the analysis proposed here is interesting for the general discussion of pluractionality for several reasons. One of them is that it brings pluractionality rather close to nominal plurality. The differences between pluractionality and nominal plurality are shown to follow largely from the nature of events as semantic objects, i.e. the ways in which events are individuated. This has the desirable consequence that certain aspects of the use of the pluractional form do not need to be reflected in the semantics of the pluractional itself. Another reason why the present proposal is interesting also for linguists who are not specifically interested in Hausa pluractionals is that the concept of special plurality, which forms an important part of my account, provides a tool for explaining certain differences between pluractionals in different languages and between different types of plurals in general. Another more general contribution of this thesis is the particular view on variation in judgments that is adopted here.

The basic idea defended in this chapter is that the interpretations of pluractional verbs in Hausa are a result of the interaction between different components (or levels) of meaning. In other words, not all that is to be said about the meaning of the pluractional marker will appear in a single formula. Instead, I will distinguish between (a) the core meaning of pluractional verbs; (b) independent principles of event individuation that are restricted by a language-specific condition; and (c) the (slightly variable) conditions on the use of pluractional verbs that follow from their special nature.

The chapter is organized as follows. Section 3.2. discusses some general notions that will be important for the analysis. In section 3.3. I give an outline of the proposal. Sections 3.4. through 3.7. are devoted to working out the details of the proposal. Section 3.4. discusses the core meaning of pluractionality in Hausa, namely the event plurality component. Sections 3.5. and 3.6. each deal with a specific class of verbs. Section 3.5. analyses verbs that require what I will be calling ‘anchors’ for event individuation. Section 3.6. focuses on naturally atomic predicates. In section 3.7., I will investigate the consequences of the fact that Hausa pluractionals are ‘special’ plurals. Section 3.8. deals with the variation in judgments found among speakers. After the entire proposal is

presented in detail, my approach to selected issues will be compared to other approaches (section 3.9). Section 3.10. concludes the chapter and the dissertation as a whole.

### 3.2. Some preliminaries

Before I proceed to the analysis itself, a few notions closely related to counting and plurality need to be discussed. Let us start by looking at some differences between objects and events. I assume that events are primitives in the ontology, just like individuals. I will not review the many arguments in favor of this idea (Davidson 1967 and many works after that) but I would like to point out that the mere existence of pluractionality should be taken as direct support for such an approach (cf. also Collins 2001). Pluractional markers mark plurality of events rather than plurality of times or individuals. Without events in the ontology, it is not possible to capture this insight. The existence of pluractionality, in addition to nominal plurality, thus supports the idea that events and objects are entities that are parallel to a certain extent. However, it is also important to pay attention to the ways in which events are different from objects. In particular, events are harder to pin down than objects. They are abstract, multidimensional entities that can be observed and described only indirectly, by reference to the elements that constitute them, most prominently, their participants, locations and times.<sup>1</sup>

Baker (2003), following Geach (1962) and Gupta (1980), assumes that nouns are the only category that have criteria of identity. According to Baker (2003), a criterion of identity is an essential precondition for counting. Since common nouns can provide criteria of identity they can appear with plural morphology. Baker assumes that verbs, just like adjectives, “cannot be inherent bearers of singular, dual, or plural morphology” because they do not have criteria of identity. He is aware of the fact that the number marking sometimes found on verbs in Mohawk is not agreement but he assumes an (incorporated) nominal element to be present in such cases, which provides the criterion for counting. “The generalization that nonnominal words cannot take intrinsic plural morphology is thus supported even in Mohawk once one looks beneath the surface” (Baker 2003:109). Even though the claim that verbs cannot be inherent bearers of plural morphology is in conflict with the prevalence of pluractional morphology in the languages of the world, the insight that verbs generally need other elements to provide the criteria for counting is correct. To be able to identify an event, it is necessary to know who or what the participants of the event are and/or where and when it takes place. In most cases, these constituting elements or building blocks of events are necessary for determining how many events there are. This does not hold for all verbs, as will be

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<sup>1</sup> I am simplifying the situation in the nominal domain. The comparison holds for objects referred to by concrete nouns. However, it is clear that a large number of nouns refer to abstract entities, which, obviously, represent more complex cases as well.

shown later: certain verbs do have inherent criteria for counting. At this point it can be concluded, however, that events generally need to rely on other elements in order to be individuated or counted. This is reflected in the existence of the different ‘readings’ pluractionals receive: namely, participant-based, spatial and temporal (iterative).

In connection with the question of what entities can be counted, three closely related notions are relevant: countability, atomicity and boundedness. In the following I specify how these three notions relate to each other.

Starting with countability, the term is traditionally used in the nominal domain in connection with the distinction between count and mass nouns. This is typically exemplified by the contrast between count nouns like *dog* and mass nouns like *water*. Count nouns like *dog* are taken to refer to atomic entities. In languages like English, they bear plural morphology, combine directly with numerals etc. Mass nouns like *water*, on the other hand, do not refer to atoms.<sup>2</sup> They cannot bear plural morphology, or combine directly with numerals. In addition to these straightforward cases, there are mass nouns like *furniture*, which are grammatically mass but whose denotation contains atomic entities and thus should be considered semantically count (cf. Doetjes 1997, Barner & Snedeker 2005, Bale & Barner in press, among others). Since Bach (1986) and Krifka (1986), the verbal counterpart of the count/ mass distinction has been commonly identified with the bounded/ unbounded (telic/ atelic) distinction, as will be discussed below. However, from the perspective of how the singular vs. plural contrast is encoded, it might be more appropriate to say that all that verbs are like (English-type) mass nouns. The reason is that (non-pluractional) verbal denotations seem to be typically number-neutral, just like those of mass nouns.<sup>3</sup>

A number-neutral denotation is a denotation that contains both singularities and pluralities, which can be represented by a join semi-lattice as in Figure 3.1. below:<sup>4</sup>

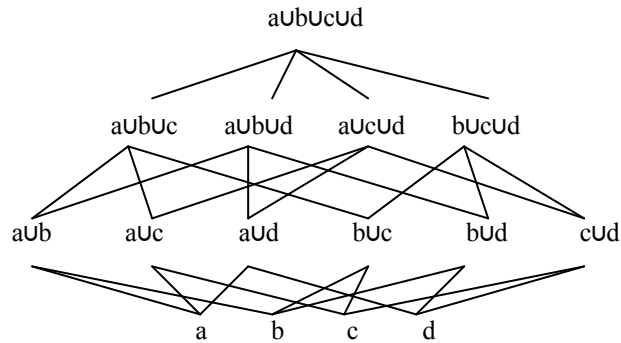
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<sup>2</sup> But see Chierchia (1998) who suggests that the denotation of mass nouns is also atomic, even though what exactly the atoms are might stay vague. I stay neutral on this issue: ‘non-atomic’ might also be read as ‘vaguely atomic’.

<sup>3</sup> The count/ mass distinction in the verbal domain is then like the count/ mass distinction within mass nouns. Verbs like *sleep* resemble ‘mass mass’ (semantically non-count) nouns like *water* and verbs like *jump* are like ‘count mass’ (semantically count) nouns like *furniture*. This distinction will be discussed below, in connection with atomicity. On ‘mass mass’ vs. ‘count mass’ nouns see Doetjes (1997).

<sup>4</sup> According to Ojeda (1998), the use of mereologies for the interpretation of grammatical number was pioneered by Massey (1976) and Wald (1977). It has become common after Link (1983).

Figure 3.1.: Number-neutral denotation



$a$ ,  $b$ ,  $c$ , and  $d$  are atomic entities and  $aub$ ,  $auc$ ,  $aud$ ,  $buc$ ,  $bud$ ,  $cud$ ,  $aubuc$  etc. are sums made of those atoms. Notice that the denotation in Figure 3.1. is identical to the ‘weak’ plural denotation of Link (1983) and Landman (1996), which includes atoms.<sup>5</sup> It is also the type of denotation Chierchia (1998) assigns to mass nouns, both of the *water* and *furniture* type.<sup>6</sup>

In many languages of the world, nouns can be unspecified for number (see e.g. Schmitt & Munn 1999, Corbett 2000, Rullmann & You 2006, Doetjes to appear). The languages that have been claimed to have number-neutral nouns include Malay, Mandarin, Korean, Hungarian, Turkish, Armenian, Brazilian Portuguese and many others. However, while nouns are number-neutral in many languages of the world, it is presumably even more common for verbs. In fact, verbs seem to be typically number-neutral. The studies that state explicitly that the non-pluractional counterparts of pluractional verbs are number-neutral include Müller & Sanchez-Mendes (2007), Faller (2008) and Součková & Buba (2008). For non-pluractional languages it has also been claimed that verbal predicates have a number-neutral rather than a singular interpretation (cf. Doetjes 2007). Kratzer (2007), following Krifka (1992) and Landman (1996), assumes that all verbs (in fact, all predicative stems) are born as plurals (the ‘cumulativity from the start’ hypothesis),

<sup>5</sup> The term ‘weak’ is used by Sauerland, Anderssen & Yatsushiro (2005), who give an overview of arguments in favor of the inclusion of atoms in the plural denotation and provide some additional evidence from language processing and acquisition. The view according to which atoms are excluded from the plural denotation (the ‘strong’ view), is taken e.g. by Hoeksema (1983), Chierchia (1998). I assume that both types of plurals exist.

<sup>6</sup> In Chierchia’s (1998) theory, it is the fact that these denotations are already ‘plural’ that makes it impossible for mass nouns to derive plural forms. Notice that this explanation should also prevent number-neutral predicates from having unambiguously plural counterparts, which is a prediction that is not borne out. Languages that have both number-neutral forms of nouns and corresponding plurals include Indonesian, Brazilian Portuguese, Hungarian among others (cf. Chung 2000, Schmitt & Munn 1999, Göksel & Kerslake 2005). Clearly, pluractional forms of verbs whose non-pluractional counterparts are number-neutral rather than singular are not expected to exist either.

which for her means that they have the denotation in Figure 3.1., i.e. one containing both atoms and their sums.<sup>7</sup>

The semantic count/ mass distinction can be defined in terms of atomicity. While mass predicates refer to non-atomic entities (or ‘vaguely atomic’ entities), count predicates are defined as having atomic reference. I further distinguish between two types of atoms, namely what I call ‘natural atoms’ and ‘constructed atoms’. Naturally atomic predicates are those predicates for which it is clear from the lexical meaning of the verb what counts as one unit (cf. Rothstein 2008).<sup>8</sup> If a predicate is not naturally atomic, atomicity can be constructed in ways that will be described below. An example of a naturally atomic nominal predicate is the count noun *dog*. Count mass nouns, like *furniture*, have clearly defined units as well. With mass mass nouns, like *water*, the atoms have to be constructed with the help of e.g. measure terms (*a liter of wine*) or they are created by mass-to-count shifts (e.g. *wines* ‘different kinds of wine’). In the verbal domain, certain predicates are also naturally atomic, even though this seem to be less common than in the case of nouns, presumably because events are essentially constructed abstract objects. An example of a naturally atomic verbal predicate is *jump*. If we know what *jump* means, we know what counts as one jump. If the predicate in question is not naturally atomic, which is the more common case, atoms can be constructed if the boundaries of the event are provided, as in *sleep for two hours* or *run to the store*. Alternatively, the predicate may undergo a mass-to-count shift, as in *John was in Paris three times this week* (cf. Doetjes 1997 for mass-to-count shifts in the nominal and verbal domain). Note that naturally atomic predicates like *jump* or *kick* can be compared to semantically count mass nouns like *furniture* or *change*, which are also naturally atomic, while verbs for which the atoms need to be constructed, like *sleep* or *run*, correspond to semantically mass mass nouns like *water* or *rice*.

The presence of atoms in the denotation, either lexically specified or constructed, can be identified with the property of semantic countability. In the case of nouns, the correlation of semantic countability with the ability to bear plural marking is not complete, however. The semantically count lexical predicates *boy(s)* and *furniture* both have atoms in their denotations. The first one is also grammatically count, but the latter is not and as a result it cannot bear plural morphology. This shows that even natural atomicity does not guarantee the possibility of plural marking. In the cases of mass-to-count shifts, the number marking does appear directly on the noun, as in the plural form *wines*. However, if the atoms are constructed with the help of measure expressions, the noun can never be marked for plurality directly, cf. *\*two bottle(s) of wines*. The situation is different in the case of verbs. In pluractional languages, the plural marking can often occur on basically any type of verb. This means that both verbs that are naturally atomic

<sup>7</sup> This is not to say that unambiguously singular forms do not exist. An example of a language that has singulative forms of verbs is Konso (Ongaye Oda 2010).

<sup>8</sup> “A predicate P is naturally atomic if what counts as one instance of P is given as part of the meaning of P and is thus not context dependent.” (Rothstein 2008:47)

(i.e. lexically count: (1a)), and those for which the atoms need to be constructed ((1b) and (1c)), can be marked for plurality:

- (1) a. Naa            tat-tàafaa  
       1SG.PF    RED-clap  
       ‘I clapped’
- b. Sun        rur-rùudée  
       3PL.PF RED-be.confused  
       ‘They are (all) very confused’
- c. Yaa        bib-bi            shi        wuràaree    dàban-dàban  
       3SG.M.PF RED-follow   him    places    different-different  
       ‘He followed him to different places’

How exactly the event atoms are constructed in cases like (1b) and (1c) will be discussed later in the chapter. At this point it is sufficient to note that the verb in (1b) is a stative predicate and the verb in (1c) an activity predicate, which are both lexically non-atomic. The verb *bi* ‘follow’ requires e.g. a goal argument for the whole predicate to become atomic. This is comparable to what measure terms do for mass nouns. However, despite the fact that in cases like (1b) and (1c) the event atoms need to be constructed, it is the verb itself that is marked for plurality.<sup>9</sup>

The last issue that has to do with countability and that needs to be discussed here is the issue of boundedness. Since Bach (1986) and Krifka (1986), the idea that the count/mass distinction in the nominal domain has as its counterpart in the verbal domain the distinction between bounded/ telic and unbounded/ atelic predicates has become widely accepted. Under this view, bounded/ telic equals count and unbounded/ atelic equals mass. Assuming that only semantically count predicates have atomic reference and that only atoms can be counted, it should follow that only bounded/ telic events are pluralizable. Nevertheless, this is clearly not the case. I showed in section 1.3.3. that pluractionality is independent of viewpoint aspect and telicity, and that unbounded verbal predicates are pluralizable as well (see also (1b) above).

I propose that the notion of atomicity needs to be relativized in the case of complex, multi-dimensional entities like events. In other words, events can be atomic in one dimension and non-atomic in another one. If events are to be pluralized, they have to be atomic in the dimension in which the pluralization takes place, e.g. in the temporal or participant dimension, but not necessarily in both. This means that temporally unbounded events can be easily pluralized because their participants can provide the

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<sup>9</sup> Note also that while atoms can be constructed both with nouns and verbs, it seems to be much more characteristic for verbs. This is presumably because events are essentially constructed entities. The fact that in the nominal domain the atoms are more often specified lexically can also be seen in that mass-to-count shifts in the nominal domain are more lexically restricted and less predictable than mass-to-count shifts in the verbal domain (Doetjes 1997:52-55).

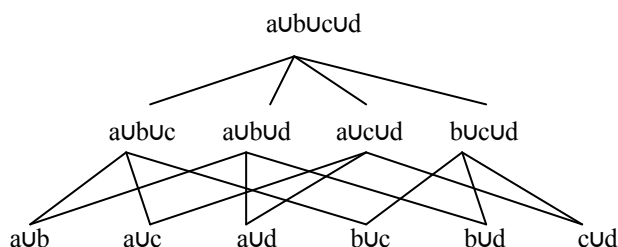
necessary atomic structure. Temporally bounded predicates are thus not the only type of ‘countable’ verbal predicates.<sup>10</sup> In the rest of the thesis, when I talk of event atoms it is in this relativized sense of ‘atomicity’.

This concludes the discussion of the relations between the count/ mass distinction, atomicity and boundedness. In relation to pluractionality, it is important that any verb is in principle pluralizable because verbal predicates that are not lexically count can very easily be made count.<sup>11</sup> It will be shown, however, that pluractionals that are derived from verbs that are lexically atomic behave quite differently from those that are not and whose atoms thus need to be constructed.

In the introduction to Chapter 1, I characterized pluractionality as expressing event plurality but also as typically having certain additional properties. To understand these properties better, the notion of special plurality will be important.

Special plurals are plurals that coexist with another form that can be used in a plural meaning: either number-neutral forms or regular plurals of the English type. The denotation of special plurals is not the ‘weak’ plural denotation of Link (1983). Rather, it is a ‘strong’ denotation that does not include atoms. These plurals are also called ‘proper plurals’ (Link 1983, Ojeda 1998):

Figure 3.2.: Proper plurals



Special plurals are not exclusively defined by being proper plurals coexisting with another ‘plural’ form, however. The other characterizing property, which is presumably more or less a consequence of the first one, is the fact that they tend to express various special plural meanings. The term ‘special plural meanings’ refers to meanings that go beyond simple plurality paraphrasable as ‘more than one’. Consider the following examples from the nominal domain, repeated from section 1.2. of Chapter 1. The forms

<sup>10</sup> The claim that not only entities that are delimited in all dimensions can be counted does not apply only to events. An example of objects that are clearly unbounded in one dimension but that are still distinguishable from each other and by that can be counted are infinitely long lines.

<sup>11</sup> The exact way of turning a verbal denotation into a count one will be discussed in section 3.5.

in (2) are distributive plurals, expressing meanings like ‘various kinds’ or ‘here and there’ in addition to plurality:

- |     |    |                               |                         |                        |
|-----|----|-------------------------------|-------------------------|------------------------|
| (2) | a. | otsikhe'ta'shòn:'a            | otsikhè:ta'             | [Mohawk] <sup>12</sup> |
|     |    | ‘ <u>various</u> candies’     | ‘sugar, candy, candies’ |                        |
|     | b. | tukô·yo'                      | tukô·yo'                | [Quileute]             |
|     |    | ‘snow <u>here and there</u> ’ | ‘snow’                  |                        |

Another type of special plurals are ‘plurals of abundance’, where the additional meaning is that of large quantity:

- |     |                         |                              |                        |
|-----|-------------------------|------------------------------|------------------------|
| (3) | ašja:r                  | šajar                        | [Arabic] <sup>13</sup> |
|     | ‘ <u>lots of</u> trees’ | ‘tree’ (generic/ collective) |                        |

There is also a type that could be labeled ‘augmented plural’:

- |     |                                 |                  |                        |
|-----|---------------------------------|------------------|------------------------|
| (4) | buyu:ta:t                       | bayt/buyu:t      | [Arabic] <sup>14</sup> |
|     | ‘ <u>big, important</u> houses’ | ‘house’/‘houses’ |                        |

Distributives and plurals of abundance are the most common types. Augmentation seems to be a much less common option. Nevertheless, all three seem to be found with special plurals both in the nominal and the verbal domain (in a comparable proportion; cf. section 1.2.).

As I have already suggested, the two aspects of special plurality just presented are not independent of each other. Special plurals are special because of their coexistence with number-neutral forms. It is thus the fact that the same meaning (plurality) can be expressed by a simpler, unmarked, form that is responsible for the marked status of an additional plural form.<sup>15</sup>

To conclude this section, I have discussed several notions that are important for the analysis to follow. They all had to do with counting and plurality. I presented some parallels and differences between the nominal and verbal domain. In the rest of the chapter, the focus will be on verbal plurality only. Nevertheless, the knowledge of how the two domains relate in different aspects should form the background of the discussion.

### 3.3. Outline of the proposal

This section presents the proposal. It provides an overview of the different components of meaning of pluractionality in Hausa and their interaction, and it sketches how the

<sup>12</sup> Example (a) is from Andrade (1933:187; as quoted by Mithun 1999:88), (b) from Mithun (1999:88).

<sup>13</sup> Cusic (1981:18).

<sup>14</sup> Cusic (1981:17).

<sup>15</sup> See Horn (1984). Cf also de Hoop & Krämer 2005 for the correlation marked form – marked meaning.

different interpretations are arrived at for different types of verbs. A fuller discussion of the individual aspects of the proposal, as well as the motivation for each step, will be given in the following sections.

As shown in Chapter 2, pluractional verbs in Hausa refer to plural events. In general, however, it is not enough if the events are simply plural. Typically, the individual subevents or, better, event units of a plural event should be many and clearly individuated.<sup>16</sup> Often, there is no need to have an overt expression referring to the plural participants or locations in the sentence. Rather, it is enough if the plurality is understood. It is also possible to relate the individual event units of a plural event to parts of a single participant, for example.

Contrary to what one would expect on the basis of data from other pluractional languages, most verbs cannot receive iterative interpretations in the pluractional form. For example, a repeated event of falling down from the stairs has to be described using a different construction. There is, however, a specific class of verbs with which repetition is possible, namely, semelfactive verbs. I have been calling these cases ‘repetitive’. These pluractional forms typically refer to events consisting of quick repetitions of short actions, like kicking, slapping, hitting etc. Apart from these more basic interpretations, a few cases are attested in most speakers’ data where plurality combines with intensification. Conative (‘try to V’) or tentative (‘superficial action’) readings can also be found.

Pluractional verbs in Hausa, however regularly they are formed, are marked and not used frequently. For some speakers, pluractionals have special connotations associated with them, e.g. they are perceived as expressive, informal or contributing some kind of negative evaluation. The use of the pluractional form may suggest that there is an element of disorder in the event or that the way in which the event takes place is unpredictable or striking.

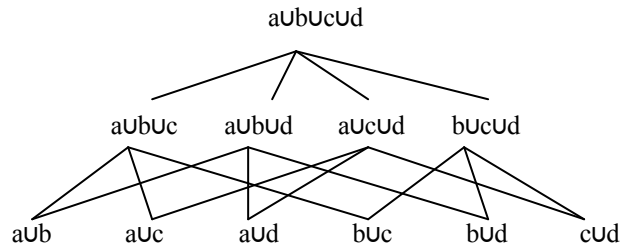
At the most basic level, the analysis proposed in this thesis can be characterized as consisting of several distinct and semi-independent components. Based on the number of components that enter into the ‘making’ of a pluractional interpretation, one could speak of a three-component system. That is, it is possible to distinguish between (a) the core meaning of pluractional verbs; (b) independent principles of event individuation that are not specific to Hausa or pluractionality as such but whose application is restricted by a language- and construction-specific condition; and (c) additional (and somewhat variable) conditions on use.

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<sup>16</sup> From now on I will be using the term ‘event unit’ instead of ‘subevent’. The reasons for this move are the following. First, the term ‘subevent’ is generally used to refer also to parts of singular events. Second, the term ‘event unit’ expresses better the idea that these are units/ atoms that can be individuated and counted.

Turning to a discussion of these individual components now, the core meaning component is very simple: pluractionals denote sums of events (*a*, *b*, *c* and *d* are atomic events):

Figure 3.3.: The core meaning of Hausa pluractionals



Note that the denotation given above contains no atoms. This is motivated by the fact that pluractional verbs cannot be used to talk about singular events, as demonstrated below:

- (5) a. Mutàanên sun fĩr-fitoo  
       people.the 3PL.PF RED-come.out  
       ‘The people have come out’  
       b. \*Mùtumìn yaa fĩr-fitoo  
       man.the 3SG.M.PF RED-come.out  
       intended: ‘The person came out’

The pluractional morpheme can thus be seen as having the effect of removing the atoms from a number-neutral denotation (cf. section 3.2. above).

The second component of the meaning of the Hausa pluractional is formed by a single condition. This condition constrains a process that is otherwise governed by principles independent of pluractionality as such: the process of event individuation. Events are abstract objects that cannot be observed directly – they can only be observed via their constituting elements. In most cases this also means that something else is needed for the events to be individuated. In particular, this applies to predicates that are not naturally atomic. Thus, for the purpose of accounting for the different readings of the pluractional form, Hausa verbs should be divided into two classes: naturally atomic verbs and all other verbs.<sup>17</sup> Naturally atomic predicates do not need anything to individuate the events they refer to, since the units are specified lexically. Thus, with verbs such as *shùuraa* ‘kick’, the minimal event unit is a single kick and the pluractional form then refers to a

<sup>17</sup> For a definition of natural atomicity see section 3.2.

multiplicity of these pre-defined units (many kicks). If the pluractional combines with singular arguments only, it is generally only possible to interpret the kicks as one following another:

- (6) Yaa shùs-shùuri teebùr̃  
 3SG.M.PF RED-kick table  
 ‘He kicked the table repeatedly’

By contrast, verbs that are not naturally atomic need the event individuation to be achieved in a different way. I will call the elements that are responsible for identifying the individual event units ‘anchors’, as they anchor the events and make them countable. In principle, all kinds of entities can serve as event anchors, e.g. the event’s participants or locations. Thus, for instance, an event that involves independently acting plural agents is interpreted as a plural event. The process of anchoring is governed by principles independent of pluractionality per se – they must be part of a general theory of what events are.<sup>18</sup>

Nevertheless, there is a restriction specific to Hausa pluractionals that enters at the level of event anchoring. The restriction is a conventionalized condition that I call ‘the non-equivalence condition’ (cf. Ojeda 1998). This condition states that anchoring should not create event units that are merely non-identical, i.e. simply plural. Rather, the individual event units should be non-equivalent, that is differentiated. The non-equivalence condition therefore excludes iterative interpretations as possible interpretations of Hausa pluractionals, since events that are simply iterated are not interpreted as truly different from each other. Anchors other than times basically always have the potential to differentiate the individual event units, by virtue of having properties of their own. For example, each event participant is a unique individual and as such participant anchors make the events they are involved in non-equivalent. By contrast, times do not have any inherent properties and as such they cannot guarantee this type of differentiation.<sup>19</sup> As a consequence, something else always has to be present that makes one event different from another, as illustrated by the following examples:

- (7) a. Naa bib-bi sù  
 1SG.PF RED-follow them  
 ‘I followed them’  
 N.B. different people (separately)

<sup>18</sup> Cf. Carlson (1998) for a discussion of the role of thematic roles in event individuation.

<sup>19</sup> The claim that times cannot make the individual events sufficiently different does not mean that times cannot distinguish one event from another. However, events that only differ in the moment at which they take place should be considered equivalent. Obviously, such events are not identical, since they are distinguishable from each other. In other words, the knocks that make up the event of (repeated) knocking on a door are non-identical but equivalent to each other, while the repeated action of lifting a (different) table at different moments involves both non-identical and non-equivalent events, since these events are interpreted as differing in more than times alone.

- b. Naa bib-bi shì wuràaree dàban-dàban  
 1SG.PF RED-follow him places different-different  
 ‘I followed him to different places’
- c. ?\*Naa bib-bi shì (sàu dà yawàa)  
 1SG.PF RED-follow him (times with many)  
 intended: ‘I followed him many times’  
 N.B. possible if the hearer interprets the sentences in the same way as (7b)

In (7a), the individual event units are differentiated by the different people being followed. The situation in (7b) involves different places. By contrast, sentence (7c) is normally not acceptable since there is nothing that could make the individual event units non-equivalent.

This type of approach explains the otherwise puzzling contrast between the well-formedness of repetitive cases such as (6) and the unacceptability of iterative cases such as (7c). The repetitive cases involve naturally atomic predicates as a result of which the events they refer to are inherently individuated and do not need to rely on anchoring. Since the non-equivalence condition is a condition on anchoring, it does not apply to naturally atomic predicates.

Before moving on to the third component, one final remark is in order. Since the manner in which the event units are individuated is not determined by the pluractional marker itself, the resulting interpretation is to a large extent shaped by the individual preferences of the speakers. Moreover, some speakers are better than others at inventing scenarios that make the use of the pluractional form felicitous. The fact that the pluractional marker does not specify what elements should be used as anchors is thus one of the sources of inter-speaker variation.

The third component concerns the additional conditions on use. These follow from Hausa pluractionals being special plurals, in the sense discussed in the previous section. The special plurality meaning is shared by all speakers, but there is variation among speakers with respect to the ways in which special plurality is manifested and with respect to how strong the effects are. Generally, the ‘special’ nature of Hausa pluractionals can be observed in the following properties. First, Hausa pluractionals normally do not refer to events that are simply plural, where plural means ‘more than one’. If a pluractional is used, the number of the individual event units should be relatively large. As a result, sentence (8) cannot be used if only very few people came out; rather, the people who came out should be relatively many:

- (8) Mutàanee sun fĩr-fĩtoo  
 people 3PL.PF RED-come.out  
 ‘Many people have come out’

Second, the occasional high degree readings are also tied to the special character of Hausa pluractionals:

- (9) Yâraa sun rur-rùudée  
 Children 3PL.PF RED-be.confused  
 'The children were very confused'  
 N.B. beyond control, alarmed

Third, a high degree of individuation is often required. This means that the minimal requirement imposed by the non-equivalence condition introduced above is often strengthened. This can have the form of an implication that the participants involved in the plural event were of different kinds or that the individual events were scattered all over the place:

- (10) Yaa sàs-sàyi abuubuwàa  
 3SG.M.PF RED-buy things  
 'He bought (many) things'  
 N.B. e.g. different kinds of things, or the buying events were scattered all over the market/ town etc.

It is rather typical for the individual event units to be differentiated along more than one dimension. This means that in the case of sentence (10), both meaning effects can be present simultaneously.

Note that there is a difference between the non-equivalence condition and the 'high individuation' requirement. In the case of (10), the non-equivalence condition requires a plurality of things but it does not explain the stronger 'distributive' effect.<sup>20</sup> The non-equivalence condition is a conventionalized condition that does not allow for the same degree of variation as the special plurality effects.<sup>21</sup>

There is a variety of other, more subtle, special plurality effects that will be discussed in section 3.7. Also, the variation in speakers' judgments partly follows from pluractionals being special plurals.<sup>22</sup>

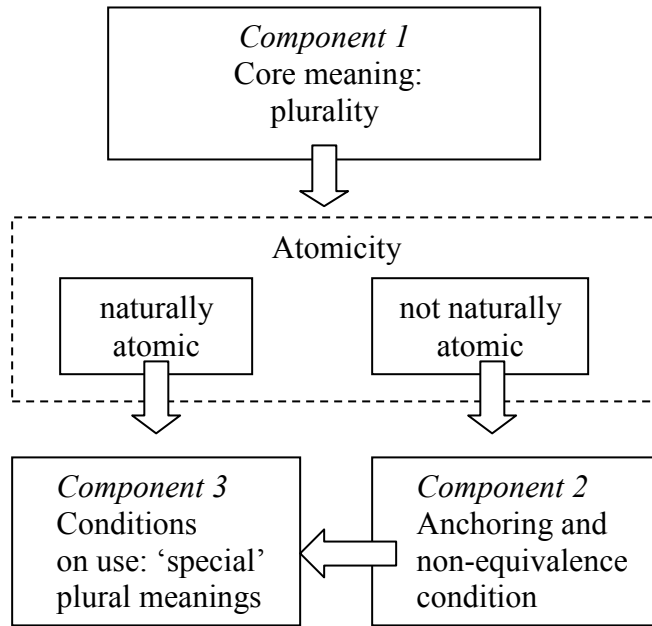
Let me summarize the proposal now in a form of a schema. Note that only the first and the third meaning component have the same importance for all verbs.

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<sup>20</sup> Cf. the distributive plurals in (2).

<sup>21</sup> It is possible that the (original) source of the non-equivalence condition is the special plural character of the pluractional form. Nevertheless, within the system of Hausa pluractionality it has an independent status, as will be argued in more detail below.

<sup>22</sup> As already mentioned at several points, speakers differ in what the exact set of accepted forms is, what the appropriate contexts are and what the forms mean. The extent of inter-speaker variation is in fact an important reason for suggesting that the interpretations pluractionals get are a result of interaction of several components that do not have the same status. The different sources of inter-speaker variation are discussed in section 3.8.

*Figure 3.4.: The three-component system*

The schema above illustrates how pluractional verbs are assigned their interpretations. Component 1, which contributes event plurality, applies equally to all verbs. The applicability of Component 2, containing the non-equivalence condition, depends on whether a given verb is naturally atomic or not, as it only plays a role in the latter case. Component 3, representing 'special' meanings of pluractionals, applies again to both types of verbs.

One aspect of the three-component system that should still be mentioned is the fact that the different components do not represent meanings that are equally fixed or stable across speakers. The plurality component is very well-defined and stable. By contrast, the special plural meanings component represents much more elusive aspects of the meaning of the pluractional. It is not fully defined how exactly the special character is manifested and the degree to which pluractionals are special can also vary with speakers. The component represented by the non-equivalence condition is much more stable than the special meanings component. However, the non-equivalence condition is not as inviolable as the plurality requirement representing the core component. Thus, each component is different not only in what it is responsible for, but also in the degree of

fixedness and the obligatoriness of its application, with the core plurality component being the most stable and well-defined one and the special effects component the least fixed one. I will argue that this also accounts for some of the typical properties of Hausa pluractionals.

In the next section, I will start developing the details of the analysis with a presentation of the core meaning component. After that, I will separately discuss cases that require anchors for event individuation and those where the event individuation relies on the natural atomicity of the verbal predicates (in sections 3.5. and 3.6., respectively). Following that, the different consequences of special plurality (section 3.7.) and the inter-speaker variation (section 3.8.) will be dealt with. Finally, I will briefly compare my proposal to other proposals in section 3.9.

### 3.4. The core meaning of pluractionality

In the previous section, I outlined the entire proposal with its three components of meaning: (a) the core meaning of the pluractional; (b) the non-equivalence condition constraining anchoring, which is a process otherwise governed by independent principles of event individuation; and (c) additional conditions on use. I suggested that the core meaning of the pluractional (Component 1 in Figure 3.4.) can be represented as follows:

Figure 3.5.: The core meaning of Hausa pluractionals

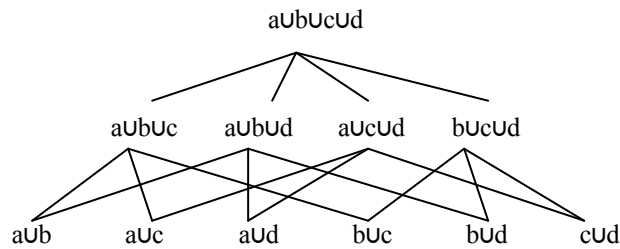


Figure 3.5. represents the fact that pluractional verbs denote sums of events. Pluractional verbs cannot refer to singular events (11), hence the exclusion of singularities.

- (11) \*Mùtùmin yaa fĩr-fĩtoo  
 man.the 3SG.M.PF RED-come.out  
 intended: 'The person came out'

Pluractional verbs also cannot normally refer to sums of events whose cardinality is very low, as in (12):

- (12) \*Mutàanee biyu sun fĩr-fĩtoo  
 people two 3PL.PF RED-come.out  
 intended: ‘Two people came out’

Therefore, it might seem desirable to exclude at least the sums made of two atoms as well. Nevertheless, in my approach pluralities of low cardinality are part of the core meaning of pluractionality. They are only excluded by the additional conditions on use, following from the special plural character of pluractionals (to be discussed in section 3.7.; cf. Component 3 in Figure 3.4.). As far as the core meaning of pluractionals is concerned, these verbs simply denote sums of events.<sup>23</sup>

Notice that the denotation given in Figure 3.5. is just a plural denotation, equally applicable to nouns and verbs. The only difference is that the atoms are individuals in the case of nouns and events in the case of verbs. The representation in Figure 3.5. does not exhaust the meaning of pluractionality in Hausa. Nevertheless, for the comparison of nominal and verbal number it is interesting to observe that the core component of the meaning of Hausa pluractionals is not different from the denotation that can be assigned to nominal (proper) plurals.

Characterizing pluractionals as referring to plural events is not sufficient for a full understanding of pluractionality in Hausa. The denotation given above by itself does not indicate how it can be determined whether something is a sum of events. What is needed to decide whether a particular event is a singular or a plural one? The answer depends on the type of verb (cf. the schema in Figure 3.4. which shows that Component 2 does not apply to all verbs). If the verb is naturally atomic, it is clear what the minimal event unit is, since this information is encoded in the lexical meaning of the verb. Knowing what the event unit is then makes it possible to determine whether there is one or more such units. Taking the semelfactive verb *bugàa* ‘hit’ as an example, a natural unit of hitting is a single hit and a plural event consists of several hits. With verbs that are not naturally atomic, the meaning of the predicate itself does not predefine event units. For example, determining what the event unit is in the case of a verb such as *sàyya* ‘buy’ requires knowledge of what is being bought and who is buying it. If Ummu buys two houses in two separate transactions, each house defines one event of buying. Verbs like *dafàa* ‘cook’, *karàntaa* ‘read’, or *bi* ‘follow’ are similar.<sup>24</sup> In other words, most verbs require the presence of elements that individuate the actual event units, elements that pull the event units out of the event mass, so to speak. I will call these individuator ‘anchors’ and the process of individuation ‘anchoring’.

I will discuss anchoring in the following section. Pluractionals that are derived from naturally atomic predicates will be dealt with in section 3.6.

<sup>23</sup> In principle, one could think that singular events are excluded by any condition that excludes sums of low cardinality. Nevertheless, while speakers sometimes do accept pluractionals when referring to plural events of low cardinality, pluractionals can never refer to singular events.

<sup>24</sup> For event individuation through thematic roles cf. Carlson (1998).

### 3.5. Event individuation through anchoring

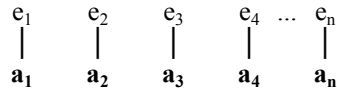
In order to determine whether an event is plural, it is necessary to be able to identify the individual event units. Most verbs are not naturally atomic, which means that it is not lexically specified for them what constitutes a single event unit. As a result, something else is needed to define the event units and these are what I call ‘anchors’. Typically, three types of pluractional readings are distinguished in the literature: participant-based, temporal and spatial readings (cf. Lasersohn 1995). One could conclude from this that there are three types of anchors: participants, times, and locations. However, in the present section, I will argue that, at least in Hausa, there is no need to distinguish between locations and participants as different types of anchors. In addition, I will argue that times are not licit anchors in Hausa. As mentioned above, this is due to the non-equivalence condition, which will be properly introduced below.

This section is divided into five subsections. I will start by introducing the notion of anchoring and the non-equivalence condition (section 3.5.1.). The following section (3.5.2.) is devoted to a discussion of locations, participants and times as potential event anchors. After that, I will discuss collective interpretations, an issue tightly linked to the question of where to draw the line between singular and plural interpretations (section 3.5.3.). Section 3.5.4. deals with cases where the anchors are parts of objects (or subquantities of masses). The last subsection (3.5.5.) discusses some related proposals in the literature. Section 3.5.6. concludes the discussion of event individuation through anchoring.

#### 3.5.1. Anchoring and the non-equivalence condition

As mentioned above, most verbs are such that their lexical meaning alone does not specify what counts as an event unit. In such cases, event individuation has to rely on the existence of entities that create the necessary units. As I already indicated, I will call the individuating entities ‘anchors’ and the process of individuation ‘anchoring’ (cf. Component 2 in Figure 3.4.). Figure 3.6. below represents anchoring graphically.

*Figure 3.6.: Anchoring*



The individual event units  $e_1, e_2, e_3$  etc. forming a plural event are individuated by their links to different event anchors  $a_1, a_2, a_3$  etc. The following examples illustrate different types of anchors (agents in (13a), patients in (13b), goals in (13c)):

- (13) a. ‘Yammaatân sun dāf-dāgà kujèerâĩ  
 girls.the 3PL.PF RED-lift chair.the  
 ‘The girls have lifted the chair’  
 N.B. the event involves multiple liftings
- b. Naa tāt-tāmbāyee sù  
 1SG.PF RED-ask them  
 ‘I asked them’  
 N.B. one by one, or group by group
- c. Yaa bib-bi shì wuràaree dāban-dāban  
 3SG.M.PF RED-follow him places different-different  
 ‘He followed him to various places’

In (13a), the anchoring of the individual event units of lifting is achieved by linking each event unit to a different girl (or a different group of girls). In (13b), each event unit is anchored by a different person (or a group of people) being asked. Sentence (13c) is an example of a case where the event units are anchored by means of being linked to different locations/ goals.

Notice that, given a dimension, an atomic/ singular event is defined by being linked to an atomic/ singular anchor in that dimension.<sup>25</sup> For an event to be plural there has to be a plurality of anchors at least in one dimension, so that an anchoring structure of the type illustrated in Figure 3.6. can be created.

Recall that anchoring is governed by independent principles of event individuation. This means that the information of what is and what is not a possible anchor is not specified in the meaning of the pluractional marker itself. Eliminating this kind of information from the meaning of the pluractional itself has the desirable consequence of making the semantics of Hausa pluractionals more clearly parallel to that of nominal plurals. Principles of event individuation, including anchoring, should be part of a general theory of what events are. The study of pluractionality can bring novel insights to this discussion.

Even though the process of anchoring is essentially independent of pluractionality in general, in the case of Hausa pluractionals it is constrained by a language specific condition. I call this condition ‘the non-equivalence condition’.<sup>26</sup> It can be formulated as follows:

(14) **The non-equivalence condition**

The individual event units in a plural event should be non-equivalent

<sup>25</sup> Groups are a type of atom; cf. the discussion in section 3.5.2.

<sup>26</sup> The non-equivalence condition is inspired by Ojeda’s (1998) treatment of distributives in Papago (see section 1.8.3.). I will compare my use of the notion of non-equivalence to his in section 3.9.

For two events to be non-equivalent, they may not be identical copies of each other. Rather, the events have to be differentiated from each other in some way. Sentence (15), for example, describes a plural event, in which every event unit involves a different bottle. The fact that the bottles are different differentiates the event units as well:

- (15) Naa    cic-cikà    kwalàabee  
       1SG.PF RED-fill    bottles  
       'I filled (many/ different) bottles'

In the examples in (13) above, the non-equivalence is achieved by the event units being anchored by different (groups of) girls in (13a), different (groups of) people asked in (13b), and different places in (13c). In section 3.7., it will be shown that the effect of the non-equivalence condition is often strengthened to the extent that the event units are highly individuated rather than only minimally different. I will argue that this strengthening, which is not required by all speakers, is a result of the conditions on use of special plurals (Component 3 in Figure 3.4.) and as such is independent of the non-equivalence condition (Component 2 in Figure 3.4.).

To conclude, anchoring is a process that is responsible for providing event units or atoms in cases of predicates that are not naturally atomic. The process is constrained by the non-equivalence condition, which ensures a minimal differentiation of the event units. In the following subsection, I will discuss what exactly it means for the possible interpretations of Hausa pluractionals, and what types of anchors can be found with Hausa pluractionals.

### 3.5.2. Possible anchors

As mentioned in the introduction, three basic readings are often distinguished in the literature: participant-based, spatial and temporal. In the context of the present discussion, a natural assumption would be that these three readings correspond to three types of anchors: participants, locations and times. In the present section, I will argue that this division is not very useful for Hausa. One reason is that times are not possible anchors of pluractional event units in Hausa. The other reason is that it is not necessary and thus not desirable to distinguish any further subtypes of anchors.

Let us start with times as potential anchors. In Chapter 2, I demonstrated that simple iterative readings are not possible interpretations of Hausa pluractionals. Consider the relevant examples again:

- (16) a. Naa    zuz-zùbà    shaayi  
       1SG.PF RED-pour    tea  
       'I poured tea'  
       N.B. for different people, not repeatedly

- b. Naa bib-bi shi  
 1SG.PF RED-follow him  
 ‘I followed him to various places’  
 N.B. not repeatedly to the same place
- c. Yaa bub-bùudê jákaa  
 3SG.M.PF RED-open bag  
 ‘He opened different compartments of the bag’  
 N.B. cannot be used to refer to repeated opening
- d. \*Taa kik-kiraa suunaanaa<sup>27</sup>  
 3SG.F.PF RED-call name.my  
 intended: ‘She called my name repeatedly’

Sentence (16a) has to be interpreted as describing an event of pouring tea for different people. It cannot be used in a situation in which I pour tea in a cup, drink it, pour some more etc. Similarly for (16b-c): simply repeated following or opening of a bag are not situations that would support the use of the pluractional form. Sentence (16d), unlike the other three sentences, does not even have the option of receiving a non-iterative interpretation. As a result, the sentence is simply unacceptable.

This situation is quite surprising, in view of the fact that iterative interpretations are very common interpretations of pluractional verbs cross-linguistically. However, on the present account, this restriction follows from the non-equivalence condition constraining the anchoring: simple iteration is not an option in Hausa because it does not yield event units that can be interpreted as non-equivalent. Times (points, or intervals), are rather mere coordinates of events, and as such they have no inherent properties that would alter the event in any perceptible way. If sentences like (16a-c) are to be interpreted at all, the hearer has to supply anchors of a different type: participants in (16a), places in (16b), different parts of a single participant in (16c). If this cannot be achieved, as in (16d), the sentence is simply unacceptable. Notice that the event described in (16d) is an event that can be repeated immediately. Thus, one cannot explain the unacceptability of the iterative readings by saying that the verbs refer to events that are not immediately repeatable.

This being said, recall that there are speakers who do allow for iterative readings (some marginally, others quite systematically) despite the fact that these should be excluded by the non-equivalence condition. My explanation for this fact is that the non-equivalence condition is not inviolable for these speakers. Recall that this condition is separate from the core meaning of the pluractional – the plurality meaning – and that it is a

<sup>27</sup> The example is well-formed (for some speakers) if one of the arguments is plural:

- (i) Taa kik-kiraa suunàayensù  
 3SG.F.PF RED-call names.their  
 ‘She called their names one by one’

conventionalized but probably not a fully grammaticalized condition. Importantly, most speakers consistently reject iterative interpretations with pluractionals. I will come back to the issue in section 3.9.

Turning to locations as potential anchors, two facts are striking. On the one hand, it is often very difficult to decide whether the event units are non-equivalent because they involve different participants, or different locations, as these might be just two different ways to look at the same thing. On the other hand, spatial readings only seem to arise with ‘location-prominent’ verbs.

To elaborate on the first point, since physical objects are always situated in space, the locations they appear in are hard to separate from them.<sup>28</sup> If an event involves participants that occupy clearly separate locations, for example, how can it be decided whether it is the participants or the locations that individuate the event units? Consider (17):

- (17) Ruwaa    yaa        bu6-bulloo  
       water    3SG.M.PF RED-appear  
       ‘Water appeared in different places’

It is hard to determine whether (17) represents a spatial reading – the event units take place in different locations – or a participant-based reading – the spatial separation only serves the purpose of making it clear that a plural participant is involved (separate quantities of water).<sup>29</sup>

Wood (2007) argues that locations are not independent of either times or participants. An argument in favor of this idea is that it is virtually impossible to construct examples with event units that would differ only with respect to their locations and not also with respect to their participants or running times. This explains why in many cases it is hard to decide what type of reading is involved. I will treat cases like (17) as participant-based. Nevertheless, the point is that the decision whether these are spatial or participant-based interpretations is probably more or less arbitrary and of no real importance.<sup>30</sup>

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<sup>28</sup> In Cusic (1981), the participant-based cases do not constitute a separate value of the distributive parameter. According to Lasersohn (1995:250), this is probably because these are already covered under the setting for distribution in space-or-time. “It is somewhat hard to judge whether or not this represents a spurious conflation of readings. An ideal test case would be a verb representing some kind of action or property which intuitively seems “outside space and time.” If such a verb could take a pluractional marker, producing a reading which ascribes the property in question separately to multiple individuals, this would show that participant-based distributivity is not a special case of spatial distributivity.” Lasersohn concludes, however, that it is better not to prejudge the issue and treat spatial and participant-based readings separately.

<sup>29</sup> Mass arguments are treated in section 3.5.4.

<sup>30</sup> Wood (2007:137-8) takes a similar position. She also argues that in many cases “it makes no sense to try to identify a single dimension in which the event is plural”, and “while it may be convenient to refer to temporal, participant or spatial interpretations of event plurality, it is frequently the case that these are not clearly separable or distinguishable”.

The second point is tightly connected to the first one. Basically, regardless of what the best way is to analyze unclear cases like (17), the entities that can serve as anchors have to be rather tightly linked to the lexical meaning of the verb. Thus, if example (17) represents a spatial reading, the locations are not just external circumstances of the plural event. With verbs like *bulloo* ‘appear’, the location should be considered an argument of the verb. If the event units are to be individuated by their locations, the fact that the events take place in different locations should affect these events in a relatively important way. In other words, only ‘location prominent’ verbs can make use of spatial anchors (cf. Wood 2007).<sup>31</sup> For instance, the locations might be the source or the goal of a motion event, as in the case of the situation described in (18a), or they might be intrinsically connected to the event in some other way, as in (18b):

- (18) a. Naa bib-bi shi wuràaree dàban-dàban  
 1SG.PF RED-follow him places different-different  
 ‘I followed him to various places’  
 b. Mun nàn-nèemee tà  
 1PL.PF RED-look.for her  
 ‘We looked for her everywhere’

I do not know of any clearly spatial cases of Hausa pluractionals where the locations would be mere specifications of where the events happened to take place without them being in any sense relevant for the nature of the event. This is probably not a coincidence. Presumably, such events would be understood as simply iterated, and hence the use of the pluractional form would be excluded.

As for participants, their ability to function as anchors is uncontroversial. They are undoubtedly the most common anchors. At the same time, they also represent the most complex cases. Even though locations (with location-prominent verbs) are not different from participants with respect to the ability to function as anchors, participant-based cases by far exceed spatial cases with respect to the complexity of their possible interpretations.<sup>32</sup> There are two main reasons for this. The first one is the existence of collective interpretations. The second reason is the fact that verbs often have more than one argument. As a result, there are more potential sources for a plural interpretation: a pluractional verb can be licensed by a plurality in the subject, in the direct object, as well as in the indirect object argument. I will first discuss collective readings and the way they are analyzed in this thesis. Then I move on to the consequences of the fact that

<sup>31</sup> Wood (2007) argues that spatial readings are the least common interpretations – they are only primary with location-prominent verbs (verbs of motion etc) or in cases where a participant is defined by a spatial location (holes). While this seems to be true for Hausa, it does not seem to be quite true cross-linguistically. In Papago, for instance, using the distributive form of a verb implies that the events take place in different locations also in the case of verbs with meanings like ‘to work’ or ‘to say something for the first time’.

<sup>32</sup> From now on I will be using the terms ‘participant-based’ and ‘spatial’ just as descriptive labels.

verbs typically have more than one argument, namely, the increase in the range of the possible scenarios that can make a sentence with a pluractional true.

Let us start by reviewing the facts:

- (19) a. Sun    dāɗ-dāgà    teebùr̃  
           3PL.PF RED-lift    table  
           ‘They (all) lifted the table’  
           N.B.    #if they lifted the table together, collectively  
                   OK: if they lifted the table one by one or in smaller groups
- b. Yaa        kaĩ-kàshè    fitilûn  
           3SG.M.PF RED-kill    lights.the  
           ‘He switched off the lights’  
           N.B.    #with a single switch (all at once)  
                   OK: several switches, one by one or a few at a time

In (19a), the subject of the pluractional verb is syntactically plural but the pluractional cannot be used if the subject is interpreted collectively. Similarly, in (19b), if the object is interpreted collectively the pluractional is not felicitous. This shows that in the participant-based cases, it is not enough to know that there are several individuals participating in the event, it is also important to know in what way they were involved in the event, i.e. what kind of interpretation the syntactically plural argument receives.

To account for the fact that collectively interpreted arguments do not license the use of pluractionals, I will be making use of the idea that collectively interpreted NPs are interpreted as groups (as in Landman 1996, 2000). Following Landman, I will assume that there are two types of singular denotations: individual atoms and group atoms.<sup>33</sup> This, in combination with the assumption that singular anchors correspond to singular events, explains why the subject in (19a) and the object in (19b) cannot be interpreted collectively. It is because collectively interpreted arguments correspond to singular anchors and thus the events they are associated with are necessarily singular as well (unless there is a plurality in a different dimension). Pluractional verbs can only refer to plural events, hence the incompatibility. The idea that collective interpretations are singular is thus crucial. The importance of interpreting groups as atoms will also become apparent below, where more complex interpretations are discussed.<sup>34</sup>

The other main reason why participant-based cases of pluractionals are so complex is that verbs often have more than one argument, which increases the number of possible scenarios that make the use of a pluractional felicitous. Consider the following example:

<sup>33</sup> Groups are formed from sums, plural denotations, by a group formation operation (↑).

<sup>34</sup> Later I will show that it is not always completely clear what makes an event a collective one. In section 3.5.3., I will discuss what factors play a role in determining whether a plural NP argument receives a collective interpretation or not.

- (20) Yârân            sun            dāf-dāgà    teebũooĩi  
 children.the 3PL.PF    RED-lift    tables  
 ‘The children lifted some/ the tables’

There are many possible scenarios that make this sentence true. For example, each of the children lifts each of the tables individually; each of the children lifts some of the tables individually; or each of the children lifts all the tables stacked on top of each other. Alternatively, the children collectively lift each of the tables one by one; the children collectively lift a few tables at a time; etc. In addition, it is also possible that the children form smaller groups that lift the tables individually or stacked on top of each other. Basically, the children can act either individually, collectively, or in smaller groups and the tables can be lifted one by one, all together, or a few at a time, as long as there are plural liftings.<sup>35</sup> The only scenario that is excluded is the one where all the children collectively lift all the tables at once. The reason is that in order to be able to use the pluractional form of *dāgà* ‘lift’, there have to be multiple liftings. A lifting of a group entity by a group entity qualifies as a single lifting, however. With respect to anchoring, this means that each individual event unit is linked to either an individual child, or a (sub)group. For the felicitous use of the pluractional form, it does not matter whether the anchor of each event unit is an individual or a group atom: it only matters is that the anchors are plural.

Having discussed the most common cases of anchoring, let us have a look at two less typical cases. The first type of case can be represented by the following examples. Each of these examples represents the judgment of a single speaker:

- (21) a. %Yâransù    sun    yiy-yi    kàmaa    dà    bàabansù  
 children.their 3PL.PF RED-do    resemblance    with    father.their  
 ‘Their children resemble their father to various degrees’  
 b. %Mun gāg-gāji  
 1PL.PF RED-be.tired  
 ‘We are (all) tired for different reasons’

In the examples above, one might think that what individuates the event units is the degree to which the property holds in (21a) and the different reasons in (21b). Nevertheless, as I will argue in more detail in the next section, these cases should be analyzed as cases of anchoring through participants. The different degrees or reasons thus do not function as anchors in (21a-b), rather they only help to individuate the participants more clearly.

The second type can be represented by the examples below:

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<sup>35</sup> Section 3.5.5. contains a discussion of how this type of interpretation can be labeled.

- (22) a. %Naa      yày-yařdà dà      shii  
           1SG.PF    RED-trust with him  
           'I trust him totally/ in everything'
- b. %Yaa      rur-rùudee  
           3SG.M.PF RED-be.confused  
           'He was so confused/ repeatedly confused'  
           N.B. about many things

The nature of the anchors in the examples above is quite hard to determine. The reason is that the meaning of such sentences can be paraphrased in different ways, which would suggest different labels for the anchors. The nature of the anchors is hard to grasp because the verbs are abstract predicates. As a result, the anchors are necessarily rather abstract as well. In (22a), the anchors could probably be characterized as 'the things he does/ says'. In (22b), the anchors are perhaps best described as 'the different things the person was confused about' (e.g. where to go, what to say, how to decide about something). I will not try to provide labels for these anchors.<sup>36</sup> Note, however, that in both cases the anchors are tightly connected to the lexical meaning of the verb and could be possibly analyzed as 'semantic arguments' of the verbs (cf. Jackendoff 1990, Grimshaw 1990, Zubizarreta 1987). In fact, I consider these cases to provide additional support for the idea that Hausa pluractionals do not rely on anchors of distinct categories. Instead, I suggest that possible anchors can be defined as those entities that correspond to semantic arguments of the verb in a rather broad sense. In principle, no labels are needed but there is also no harm in using terms like 'participant-based' or 'spatial' reading descriptively.<sup>37</sup>

To conclude the discussion on the possible entities that can anchor event units of plural events referred to by Hausa pluractionals, I propose that essentially anything with any relevance for the given event can serve as an anchor, as long as the non-equivalence condition is met. As discussed before, this excludes times as possible anchors because anchoring by means of times would not create event units that are non-equivalent. This type of approach also eliminates the need for further classification of possible anchors. In other words, the 'anchored' interpretations do not need to be divided into distinct 'readings'. Such a classification would not provide any interesting insight into pluractionality in Hausa. In fact, it would only obscure the fact that the process of

<sup>36</sup> If a label was to be invented it would probably be something like 'content' ('trust someone in something', 'be confused about something').

<sup>37</sup> Note also the following characterization of what licenses distributive readings of reduplicated verbs in Indonesian; the last possibility mentioned suggests that not only possible syntactic arguments of the verb can be what instantiates the (distributive) plurality (Rosen 1977:2; emphasis mine): "In these cases when reduplication is applied to a verb, it has the function of either making the immediate arguments of the verb either multiple or diffuse. The possible arguments (or related NP's) a verb can have are the agent or actor, the direct object, a statement of time or aspect, objects which are incorporated into the basic meaning of the word (which would be implied by the lexical decomposition of the word.)"

anchoring is, with the exception of the non-equivalence condition, unrestricted by the pluractional marker itself.

### 3.5.3. Collective interpretations

In the previous section, I dealt with the question of what elements can serve as event anchors. When discussing participant anchors, I showed that collectively interpreted participants behave like singular participants. This means that they function as singular anchors and thus collective events are singular. As a result, the use of the pluractional form is infelicitous. However, as will be shown, answering the question what makes a collection of individuals a group and an event a collective one is not trivial. In many cases, the situation is clear. For instance, joint action of the type ‘lift the piano together’ is undoubtedly collective and therefore the pluractional form cannot be used to describe such events. Nevertheless, there are also other cases where speakers often hesitate or give varying judgments.

In this section I will first show that even inherently distributive predicates can refer to collective events. This is reflected in the fact that in such cases the pluractional cannot be used. Second, I will argue that certain special effects might arise with pluractionals, which serve the purpose of excluding collective interpretations.

Let us start by looking at the compatibility of the adverb *tàare* ‘together’ with pluractionals. I showed in Chapter 1 (section 1.5.2.) that the use of adverbs like *together* does not necessarily imply joint action. In some cases, *together* just indicates social accompaniment, spatial or temporal proximity etc. (Lasersohn 1995, chapter 11):

- |      |                                              |                       |
|------|----------------------------------------------|-----------------------|
| (23) | 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    |

According to Lasersohn (1995), only (23a) refers to true collective action. Verbs such as *stand up* or *go to the movies* are inherently distributive predicates. This means that they necessarily apply to all atoms in the plurality, and as a result, the events in (23c) or (23d) could be expected to count as plural.

Applying this to Hausa, the expectation would be that pluractional forms of verbs that can have both collective and distributive readings (like *ɗagàa* ‘lift’) should be incompatible with adverbs like *tàare* ‘together’. This is so because *tàare* would force a collective, i.e. singular, interpretation. As for inherently distributive predicates, one would expect the presence of *tàare* in the sentence to be less important, as events

described by such predicates should count as plural in either case. This expectation is fulfilled only partly, as can be seen from the following examples:<sup>38</sup>

- (24) a. \*Sun dāf-dāgà teebùrīn tàare  
 3PL.PF RED-lift table.the together  
 ‘They lifted the table together’  
 b. %Sun zaz-zàunaa tàare  
 3PL.PF RED-sit together  
 ‘They (many people) sat down together’  
 c. %?Sun tāt-tāfi kàasuwaa tàare  
 3PL.PF RED-go market together  
 ‘They went to the market together’

The examples in (24) show that the opposition collective (singular) vs. non-collective (plural) readings is not as simple and clear-cut as one might think. The data in (24a-b) are as expected: in (24a), *tàare* forces the collective – singular – interpretation of the event. As a result, the pluractional is unacceptable. In (24b), the predicate *zàunaa* ‘sit down’ is inherently distributive. Consequently, the event is necessarily plural and the pluractional usually acceptable. The adverbial *tàare* only expresses spatial and/or temporal proximity. Compared to (24b), (24c) is much less readily acceptable, however. This is surprising under the assumption that events referred to by inherently distributive predicates are always plural. The predicate *tāfi kàasuwaa* ‘go to the market’ is inherently distributive just like *zàunaa* ‘sit down’. If it holds of a group of people that they go to the market, it holds of every individual member of the group that they go to the market. In fact, cases like (24c) are not simply degraded. It is more accurate to say that speakers hesitate and sometimes change judgments over time. Note also that the pattern above can be observed not only when *tàare* is used in the sentence: it is enough for the situations to be described as involving actions in which the participants act together in some sense. Consider also the following sentence:

- (25) Mutàanee sun fīr-fītoo  
 people 3PL.PF RED-come.out  
 ‘Some/ the people have come out’  
 N.B. not all of them together

Similarly to what was observed above, speakers usually do not accept the sentence if the people came out at once, in a single group, even though *fītoo* ‘come out’ is an inherently

<sup>38</sup> The reason why not all speakers accept the sentence in (24b), as indicated by the % symbol, is that some speakers would only use the pluractional if the people sit scattered all around the place or if they are very many, which are both situations that are not easily compatible with the use of *tàare* ‘together’. The combination of symbols ‘%?’ preceding the sentence in (24c) indicates that those speakers who accept sentences (24b) and (24c) find sentence (24c) less good than sentence (24b).

distributive verb.<sup>39</sup> Thus, the fact that an inherently distributive predicate is used does not prevent the speakers from interpreting an event as collective, that is singular. Whether a predicate holds of every individual in a group or the group as a whole is not the only factor that determines whether an event is plural or singular (collective). The following paragraphs give some indication as to what factors play a role in determining whether an event is interpreted as collective or not.

To understand better why *zaunàa* ‘sit’ resists the collective interpretation more easily than *tàfi kàasuwaa* ‘go to the market’, it is important to look at what types of events they refer to and how much the nature of the event changes if the participants involved in the event form a group in some sense. The data suggest that it matters more for events like going to the market whether the participants are a group, or independent individuals, than it does for events like sitting down. Presumably, the reason is that if a group of people go to the market together, they have a common goal and the event requires more interaction among the participants. In such an event, the individual participants are connected by a shared intention and thus they act less like independent entities than participants of an event that involves just a more or less mechanical change of position. In a change-of-position event involving a group of people, the individual members of a group basically just act simultaneously rather than truly collectively. Thus, it seems that what matters for the possibility of the use of the pluractional form is whether the members of a group can be said to be involved in the event strictly individually (sitting down together) or not (going to the market together).<sup>40</sup>

In a certain type of cases, some interesting effects can be observed that seem to arise as a consequence of the need to ensure that the participants of the different event units are indeed involved in them as independent entities. Consider the following examples (already discussed briefly in section 3.5.1.):

- (26) a. %Sun gàg-gàji  
           3PL.PF RED-be.tired  
           ‘They were all tired’  
           N.B. %for different reasons

<sup>39</sup> In principle, one could think that this effect can be a consequence of the high individuation requirement, which will be discussed in more detail in section 3.7.2. As such, the fact that the people cannot come out together would follow from the requirement that the individual event units be highly differentiated. While this is not an implausible explanation, the effect observed in (25) seems to be too strong to follow from the high individuation requirement, which can often be dropped or is not present for all speakers.

<sup>40</sup> Verbs like *fitoo* ‘come out’ in the example in (25) also presumably do not refer to simple events of (directed) motion. If people come out of the house together, they probably have the same reason for doing so (something is happening outside) or are otherwise connected in the action (some of them just follow the others). Other verbs that pattern with *zaunàa* ‘sit’, on the other hand, are *tsayàa* ‘stop’, *taashì* ‘stand up/ get up’, *kwàntaa* ‘lie down’. Notice that these are all verbs referring to actions that have to be carried out strictly individually.

- b. %Yâransù sun yiy-yi kàmaa dà bàabansù  
 children.their 3PL.PF RED-do resemblance with father.their  
 ‘Their children resemble their father’  
 N.B. %to various degrees’

The predicates used in the two sentences above are inherently distributive. Nevertheless, the use of the pluractional requires that the participants be involved in the events not as a group, but rather as individual units. For (26a), this is achieved if the participants are not tired as a group, for instance as the result of something they did together, but rather independently of each other, as the result of their individual actions. Similarly in (26b): the pluractional is felicitous if the children do not just all look like their father (that could be a statement about them as a group), but rather if it is clear that each of them resembles their father individually and in their own way, for example, by each resembling the father to a different degree. Even though the judgments above are not shared by all speakers (as indicated by the % symbol), they represent a general tendency with respect to the use of pluractionals as a way to exclude collective interpretations.

Coming back to the discussion in Chapter 1 (section 1.5.2.) where different views on the nature of collective interpretations were presented, the following can be said. On the one hand, there is the position of Lasersohn (1995) and Landman (2000) according to which only (23a) represents true collective action. On the other hand, for Kratzer (2003), probably all the predicates in (23) should be interpreted as collective. Kratzer’s definition of collectivity relies on the notion of substantive groups, which is in turn defined by “spatial proximity of the agents and temporal closeness and coordination of their actions” (Kratzer 2003:34). Actions by substantive groups are, then, collective actions. In the paragraphs above, it was observed that an adequate description of the use of the pluractional form in Hausa requires still a different notion of collectivity. This notion of collectivity is broader than that of Lasersohn/ Landman, but narrower than that of Kratzer because it includes more than cases of true collective action but excludes cases in which the events are merely spatially/ temporally close or coordinated. In other words, for an event to be interpreted as collective, i.e. as singular, it is often enough if the participants are not involved in the event strictly individually but have a common goal, for instance, or the state they are in has a common source. However, spatial closeness of the agents or the temporal closeness of the actions is not sufficient for an event to be interpreted as collective one. I do not propose that one approach to collective interpretations is correct and the others are wrong. Instead, I suggest that different grammatical and lexical phenomena are sensitive to different types of ‘collectivity’. The English adverb *together*, for example, might be sensitive to collective interpretations roughly in the sense defined by Kratzer (2003). Inherently distributive predicates, on the other hand, reflect the distinction between true collective action and all the other readings (Lasersohn 1995/ Landman 2000), as they can never receive a true joint action interpretation. Finally, Hausa pluractionals seem to put the dividing line between

collective and plural readings somewhere else still: what seems to matter is the extent to which the event participants act as independent entities.

### 3.5.4. Distribution to parts and subquantities

The previous section dealt with an issue connected to cases where the anchors are event participants. This section will continue discussing cases with participant anchors. In particular, the focus of this section will be on cases where the individual event units of plural events are anchored by parts of participants. I will argue that these are just a subtype of participant-based cases, and that all cases involving anchoring can be treated uniformly. The discussion will partly revolve around the event-external vs. event-internal distinction. Recall that, roughly, event-external pluractionals refer to multiple events, while event-internal pluractionals refer to singular events that consist of many phases or subevents of the same type (a more precise characterization will be given below). The reason why this distinction will be important is that certain cases of pluractionals that involve distribution to parts have been analyzed as event-internal in the literature (Tovena & Kihm 2008). Some space will thus be devoted to showing that, according to the criteria adopted in this thesis, cases of distribution to parts are not event-internal in Hausa. However, there are pluractionals in Hausa that receive interpretations that could be considered event-internal. I will discuss one type of event-internal interpretation in this section, and I will argue that these cases are just a subtype of the ‘distribution to parts’ type.<sup>41</sup> Despite the fact that the interpretations are event-internal, I will suggest that there is no need to assume a different semantics for these pluractionals. The event-internal effect will be argued to follow from non-exhaustive distribution to parts, which in turn follows from the need of having plural anchors.

#### 3.5.4.1. Parts as anchors

Let us start by looking at some examples:<sup>42,43</sup>

<sup>41</sup> Another type of event-internal interpretations will be discussed in section 3.6.2.

<sup>42</sup> Most speakers have little trouble interpreting sentences like those in (27). Some speakers accept more cases of this type than others, however. The acceptability is influenced by factors discussed below. In addition, examples of the type illustrated in (27) are generally interpreted in two different ways: either exhaustively (all parts are affected), or non-exhaustively (only some parts are affected). This will be discussed in more detail in the next subsection and in section 3.8.1.

<sup>43</sup> Note that sentences with singular arguments of the type below do not seem to be able to receive an interpretation according to which the arguments co-vary with the event units:

- (i) \*Naa sàs-sàyi littaaɸii  
 1SG.PF RED-buy book  
 intended: ‘In each book-buying situation I bought a different book’.

This is in accordance with the observations made for other languages that indefinite objects seem to take wide scope with respect to the pluractional (cf. Van Geenhoven 2004, Henderson 2010).

- (27) a. Gidân yaa rur-rùushee  
house.the 3SG.M.PF RED-collapse  
'The house has collapsed in different places'  
N.B. either all parts of the house have collapsed or only some
- b. Riigâr taa fař-fâashee  
gown.the 3SG.F.PF RED-break  
'The gown has holes in different/ many places'
- c. An đad-đaurée shi  
IMP.PF RED-tie.up him  
'They tied him in various places'  
N.B. for some speakers it implies that the rope was wound all around him

Sentence (27a) describes a situation in which different parts of the house have collapsed. In (27b), the pluractional indicates that the holes are distributed over parts of the gown. Sentence (27c) is used to indicate that the tied person is tied in various places and thus it would not be used if only the person's hands were tied, for instance.

Apart from cases with singular count arguments, as in (27), there are also cases of pluractionals with mass arguments (referring to quantities), which can receive very similar interpretations:

- (28) a. Ruwaa yaa 6u6-bulloo  
water 3SG.M.PF RED-appear  
'Water appeared in various places'  
N.B. the event involves separate quantities of water
- b. %Yaa shas-shànyè madařaa  
3SG.M.PF RED-drink.up milk  
'He drank up all the milk'  
N.B. all the bottles; for some speakers also all subquantities of milk in a single bottle<sup>44</sup>

The use of the pluractional form in (28a) implies that there were separate quantities of water appearing in different places. Sentence (28b) can be used by some speakers to indicate that there was a plural event of drinking and each event unit involved a separate (sub)quantity of milk.

Note that I am treating cases with singular count and mass nouns together. This might seem strange, as mass nouns are usually compared to plural count nouns (e.g. Link 1983, Chierchia 1998), rather than to singular count nouns. I would like to argue, however, that in some respects mass nouns behave like singular nouns, in others like plural nouns and

<sup>44</sup> The interpretation according to which all the subquantities of milk in a single bottle are drunk in the plural event is rather unusual because the plurality of the event is not obvious. This type of interpretation will be discussed below.

in still others they form a category of their own. The resemblance to singular count nouns can be seen from the fact that speakers seem to have similar intuitions about at least some cases with mass nouns and about cases with singular count nouns. This is because division into parts is often required in both types of cases: for mass nouns it is in cases in which the mass noun refers to a contiguous quantity of stuff (cf. (28b)). Thus, even though some cases involving mass nouns, such as (28a), might be closer to cases with plural NP participants, in general it makes more sense to consider cases with mass nouns together with cases with singular count nouns. Nevertheless, I will argue that all types of cases – with singular count, plural count and mass nouns – represent the same phenomenon.<sup>45</sup>

I propose that cases like those in (27) and (28) are in fact not different from cases where pluractionals combine with plural arguments. They represent the same type of event plurality. What is different in these cases is that the anchors for the individual event units are parts of participants. This is in general a less obvious option and as a result examples of this type are generally not the first examples of pluractionals volunteered by the speakers. Still, examples of this type are far from rare. More importantly, the interpretations are very systematic and predictable. To provide more support for the idea that parts of individuals and quantities can function as anchors of pluractional event units, I will now discuss some other cases in which part structures of single objects can be accessed.

Moltmann (1997) discusses expressions that are sensitive to part structures of various entities (objects, events). There are expressions operating on part structures of plural entities, as in (29a), but also of individuals (denoted by singular count nouns), as in

<sup>45</sup> The distributive prefix *po-* in Czech, discussed briefly in sections 1.5.1. and 1.7. of Chapter 1, can also access parts of objects and thus its use is not restricted to verbs with plural objects:

- |        |                                                      |           |                            |               |
|--------|------------------------------------------------------|-----------|----------------------------|---------------|
| (i) a. | Po-zamykal                                           | (všechny) | dveře                      | PLURAL NOUN   |
|        | DISTR-locked                                         | (all)     | doors                      |               |
|        | 'He locked (all) the doors'                          |           |                            |               |
| b.     | Po-zamykal                                           | (celý)    | dům                        | SG COUNT NOUN |
|        | DISTR-locked                                         | (whole)   | house                      |               |
|        | 'He locked (anything lockable in) the (whole) house' |           |                            |               |
| c.     | Po-schovávala                                        | ty        | mince (na různých místech) | PLURAL NOUN   |
|        | DISTR-hid                                            | DEM       | coins (in various places)  |               |
|        | 'She hid the coins (in various places)'              |           |                            |               |
| d.     | Po-schovávala                                        | to        | zlato (na různých místech) | MASS NOUN     |
|        | DISTR-hid                                            | DEM       | gold (in various places)   |               |
|        | 'She hid the gold (in various places)'               |           |                            |               |

In (ia), there are plural doors for the plural event to distribute over. In (ib), on the other hand, the object is the singular count noun *dům* 'house': it is understood that all doors of the house that can be locked were locked. Similarly, in (ic) the event is distributed over plural (collections of) coins. In (id) the existence of separate quantities of gold is implied.

(29b), and quantities (denoted by mass nouns), as in (29c). In Italian, the same expression, *tutto*, can combine with definite plural, singular, and mass NPs:

- (29) a. Tutti i bambini sono arrivati PLURAL [Italian]<sup>46</sup>  
           all the children are arrived  
           ‘All the children have arrived’
- b. Tutta la superficie è coperta di fiori SINGULAR COUNT  
           all the surface is covered of flowers  
           ‘The whole surface is covered with flowers’
- c. Tutta l’acqua contiene sale MASS  
           all the water contains salt  
           ‘All the water contains salt’

In other languages, not all types of NPs can combine with the same ‘part quantifier’ (in Moltmann’s terminology). Thus, in English, *all* combines with plural and mass nouns and *whole* with singular count nouns:

- (30) a. All the women are rich PLURAL  
       b. All the furniture is the same color MASS: *furniture-type*  
       c. All the milk has gone bad MASS: *water-type*  
       d. The whole country supported him SINGULAR COUNT

In (30a) and (30b), the parts that the predicate holds of are very clearly defined: the individual women and the individual pieces of furniture, respectively. The sentences in (30c) and (30d), however, are more interesting for the present discussion, as it is left unspecified what exactly the parts are in these cases. In (30c), the overall quantity of milk could be subdivided in any fashion, and the predicate holds of any (relevant) part/subquantity of it. Similarly, in (30d), the predicate holds of every (relevant) part of the country (its population), however vaguely the parts might be defined (every city, every region etc.). Moltmann argues that in different contexts different part structures may become available or salient. Clearly, these various part structures can be accessed by linguistic expressions.<sup>47</sup> If even part structures of entities referred to by singular count nouns can be accessed by certain linguistic expressions, it is not surprising that they can be used for the ‘anchoring’ of individual event units of plural events referred to by pluractional verbs.

I have suggested that anchoring by parts of participants is in principle the same as anchoring by plural participants. The necessary precondition is, of course, the availability of a suitable part structure. Sometimes more than one part structure is available and in such cases the choice of the relevant parts is essentially a pragmatic phenomenon. In some cases more readings are possible, but some are always more likely

<sup>46</sup> Based on Moltmann (1997:128).

<sup>47</sup> For more examples see Moltmann (1997).

than others. This is not just true for cases with singular NPs, as can be seen from the following example (Moltmann 1997:57-58):

- (31) The boxes are expensive
- a. each individual box is expensive
  - b. the boxes as a group/ collection are expensive
  - c. every relevant subgroup is expensive

The readings in (31a) and (31b) are the most salient ones. Reading (31a) involves distribution to the individual boxes as atoms. Reading (31b) represents the collective interpretation. According to Moltmann, distribution to subgroups, as in (31c), is probably not excluded either but it requires an appropriate context.<sup>48</sup>

As shown in (31), it is generally much easier to distribute to atoms than to subgroups, since atoms, unlike subgroups, are pre-defined or ‘natural’ units. Not surprisingly, then, when going below the level of an individual, it can become even harder to make the parts clear (and usable). This can be seen from the fact that many speakers, when confronted with a combination of a pluractional and a singular argument, might at first reject the sentence as unacceptable. After a moment of reflection, however, they are often able to reconsider the example and accept it on a reading where the individual event units are linked to different parts of the participant. Therefore, even though cases like (32a) are generally easier to interpret than cases like (32b), the latter are not hard to find.

- (32) a. Gidàajên      sun      rur-rùushee  
           houses.the    3PL.PF RED-collapse  
           ‘The houses collapsed’
- b. Gidân      yaa      rur-rùushee  
           house.the 3SG.M.PF RED-collapse  
           ‘The house collapsed in many places’

In addition, the properties of a given object substantially influence the acceptability of the use of the pluractional form. Nouns referring to objects that have salient parts are easier to ‘partition’ this way than those that do not. Nouns referring to objects like buildings (32a), humans (33a) and other objects with a salient internal structure (33b) thus generally combine well with pluractionals:<sup>49</sup>

- (33) a. Yanàa      mìm-miike      a kân gadoo  
           3SG.M.IMPF RED-stretch.ST    at top.of bed  
           ‘He is sprawled out all over the bed’

<sup>48</sup> Moltmann also notes that while the subgroup interpretation is not excluded, even though it is relatively hard to get, distribution to subparts of the boxes is not available at all.

<sup>49</sup> Example (33a) is from Newman (2000:423); the glosses are mine.

- b. Naa bub-bùudè jàkaa  
 1SG.PF RED-open bag  
 ‘I opened the different compartments of the bag’

If the internal structure of the object is rather homogeneous, the size of the object seems to be relevant: bigger objects seem to be easier to divide into parts. Consider the contrast between (34a) and (34b):

- (34) a. Kankanaa yaa rur-rùbee  
 watermelon 3SG.M.PF RED-rot  
 ‘The watermelon is all rotten’  
 b. ?Mangwàrò yaa rur-rùbee  
 mango 3SG.M.PF RED-rot  
 ‘The mango is all rotten’

Note that data like these suggest that we should not think of the pluractional morpheme as being directly responsible for splitting its singular argument into parts. If that were the case we would expect the ‘partitioning’ to happen whenever possible. In other words, it would be possible to divide mangoes into parts just as easily as watermelons, similarly to what can be seen in (35), where the parts are accessed by other means (lexically):

- (35) a. (different/ all) parts of the watermelon  
 b. (different/ all) parts of the mango

Moreover, some speakers accept cases involving distribution to parts more easily than others. All in all, the fact that the differences in acceptability are gradual rather than sharp, suggests that the availability of a suitable part structure is not something the pluractional itself is responsible for. Instead, it relies on the part structure being potentially present.

Unlike singular count nouns, mass nouns should be able to receive a plural interpretation without any additional operations since they can in principle refer both to one and several portions of matter. Nevertheless, for the use of a pluractional form to be felicitous it is important whether the mass noun is easily construed as referring to discrete entities. For participants to be suitable anchors they need to be plural and clearly distinguishable from each other. In the case of plural count nouns, it is clear what constitutes an anchor unit: the (natural) unit that can be described by the given nominal predicate. In the case of mass nouns like *water*, however, there are no predefined parts or units. These have to be created either linguistically (e.g. *a bucket of water*) or with the help of context (cf. Chierchia’s 1998 distinction between well-defined and vague minimal parts). In that sense (*water*-type) mass nouns are similar to singular count nouns. In both cases the different parts of the given entity, i.e. the units that could anchor the individual subevents, are not clearly predefined.

As said, then, for compatibility with pluractionals, it matters more whether discrete units can be easily created or not, rather than whether the noun has a cumulative reference. This is what makes mass nouns in argument positions of pluractional verbs very similar to singular count nouns. It is not surprising that it is easier to use a pluractional if the mass noun can be interpreted as referring to separate quantities of matter (e.g. several bottles of milk), rather than not so clearly separated subquantities of a single portion of matter (e.g. subquantities of milk in a single bottle). This is even clearer if there are conventional units available (e.g. a bottle). In other words, some ways of ‘packaging’ stuff are more readily available than others. Consider example (28b), repeated here as (36):

- (36) %Yaa shas-shànyè madañaa  
 3SG.M.PF RED-drink.up milk  
 ‘He drank up all the milk’  
 a. all the bottles  
 b. %all subquantities of milk in a single bottle

The reading involving separate quantities of milk, e.g. in the form of separate bottles of milk, as in (36a), seems to be easier to obtain than the reading involving subquantities of milk in a single bottle, as in (36b). Nevertheless, the subquantity reading is available for a small number of speakers as well. This seems to be the general pattern found in the data.

The contrast between separate quantities and subquantities of a single unbroken quantity is parallel to the contrast between plural individuals and parts of a single individual. The latter is the marked option in each opposition. This is especially true for cases where the anchors are subquantities that are not separated from each other, as in (36b). Events that are clearly separated by means of their participants being clearly separated are more likely to be described by pluractionals than events whose participants are less clearly separated.

In this context, consider one of the two examples that were presented in section 2.3.7. as possible counterexamples to the plurality requirement:

- (37) Ruwaa yanàa zuz-zubôwaa  
 water 3SG.M.IMPF RED-pour.VN  
 ‘Water is/ was pouring down’  
 N.B. %from one source, continuously

Most speakers require there to be separate quantities of water. This requirement is fulfilled if the water comes from different sources or, less often, if the water flows from a single source but with interruptions. Nevertheless, there are a few speakers who also allow for a reading involving a single source and no interruptions. This seems to be a continuous reading, which is otherwise not possible with pluractionals. I would like to argue, however, that this interpretation is not genuinely continuous. I suggest that the

anchors of the individual event units of the water-pouring are the different subquantities of water. However, these subquantities are not separated from each other, similarly to the interpretation in (36b). This gives the impression of continuous flowing. Notice that this reading is dispreferred and most speakers reject it completely. Subquantities that are not separated from each other remain very marginal anchors.<sup>50</sup>

Coming back to the comparison of (semantically) count and mass participants, the main difference between the two types of participants is that in the case of mass participants, both the ‘separate quantities’ reading and the ‘subquantities of a single quantity’ reading are triggered by context and do not rely on the presence of predefined units. In (36), the (a) reading does make use of the availability of a conventional unit (bottle). However, such units are generally not required as can be seen in (38), repeated from (28a), where the separate quantities of water can take any form (drops, puddles, streams etc.; the difference between (36) and (38) stems from the fact that milk does not occur freely in real life):

- (38) Ruwaa yaa        6u6-6ulloo  
       water 3SG.M.PF RED-appear  
       ‘Water appeared in various places’  
       N.B. the event involves separate quantities of water

As a result of this lack of natural units, the contrast between the ‘plural’ and ‘part’ readings is smaller in the case of mass nouns than in the case of count nouns. In the case of count nouns, the anchors can be either natural units (the ‘plural’ case), or entities below the level of natural units (the ‘part’ case). Therefore, as far as distribution to parts is concerned, mass nouns are very much like singular count nouns. Nevertheless, once all types of participant units are considered, it becomes clearer that mass nouns form a category of their own, defined by the absence of natural units. The table below summarizes the possibilities for anchoring for both singular and plural count nouns and (*water-type*) mass nouns:

*Table 3.1.: Types of participant-based readings*

| type of NP | ‘plural’ readings               | ‘part’ readings      |
|------------|---------------------------------|----------------------|
| count      | plural individuals (plural NPs) | parts (singular NPs) |
| mass       | separate quantities             | subquantities        |

To summarize, in the cases of distribution to parts or subquantities, what licenses the use of the pluractional form is the presence of an NP that can be interpreted as a plurality of some kind. Therefore, it is the presence of multiple participant anchors that makes the use of the pluractional form felicitous in these cases as well, just like in the more typical

<sup>50</sup> The other apparently continuous case presented in section 2.3.7. is of a slightly different type and will be discussed in 3.6.1.

participant-based cases. The only difference with respect to the regular plural NP argument cases is that the individual ‘participants’ in the distribution-to-parts cases are not as clearly predefined as they are in the case of distribution to natural wholes. As a consequence, it requires some effort on the part of the speaker/ listener to supply a salient part structure of the entities in question, and more so if the given entities do not have a very clear internal structure. Once there is a salient part structure, ideally with clearly individuated parts, nothing prevents the individual event units to be anchored by these parts.

#### **3.5.4.2. Event-internal status of ‘distribution-to-parts’ cases and tentative interpretations**

As mentioned already, cases of pluractionals where the plural event is distributed over parts of a single participant could be potentially considered event-internal.<sup>51</sup> In relation to this, I will make two claims here. First, I will argue that cases like the ones discussed above are not event-internal in Hausa. The second claim will be that there are, nevertheless, pluractional interpretations in Hausa that are probably best analyzed as event-internal. These are of two types: the so-called tentative and conative cases. The tentative cases will be discussed in this subsection since, on my analysis, they constitute a special type of ‘distribution-to-parts’ cases. The conative cases will be discussed in section 3.6.2.

The distinction between event-external and event-internal pluractionals, introduced in Chapter 1, can be characterized as the distinction between pluractionals that refer to many events on the one hand and those that refer to many phases of a single event on the other hand (Cusic 1981). However, researchers do not completely agree on a more exact characterization of this seemingly simple distinction. A number of different criteria can be found, some of which are not linguistic. Non-linguistic criteria can be found in Wood (2007), where what matters is basically whether the plurality is perceived as a single whole or not. This is influenced by e.g. temporal and spatial proximity, similarity, etc. For the purpose of this thesis, I adopt the following criteria for identifying event-internal pluractionality. These are basically a compilation of (linguistic) criteria found in Lasersohn (1995), Wood (2007) and Tovená & Kihm (2008):

- (39) *necessary properties of event-internal pluractionals:*
- (a) ARGUMENT IDENTITY  
the individual event units are related to a single participant
  - (b) INACCESSIBILITY OF THE EVENT UNITS  
the event units cannot be linguistically accessed

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<sup>51</sup> The distinction between event-external and event-internal pluractionality was introduced in section 1.6.2. of Chapter 1.

*optional property of event-internal pluractionals:*

(c) ALTERED NATURE OF THE EVENT UNITS

the basic predicate cannot be used to describe the individual event units

Criterion (a) can be found in Wood (2007) and in Tovená & Kihm (2008). In the example below it is illustrated for Italian:

- (40) Luisa ha tagliuzzato le mele [Italian]<sup>52</sup>  
 Luisa has chopped the apples  
 'Louise chopped the apples'  
 N.B. each apple has to be cut many times, not just once: there is a plurality of events per apple

Tovená and Kihm (2008) also take as a defining characteristic of event-internal plurality the inaccessibility of the event units: criterion (b):

- (41) Alla riunione, ha mordicchiato due volte la matita [Italian]<sup>53</sup>  
 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

Criterion (c) is taken from Lasersohn (1995), who presents this as the only aspect in which event-external and event-internal pluractionals differ. Thus, according to Lasersohn, event-internal pluractionals are different from event-external ones in that the predicate that applies to every individual event unit is different from the verb stem itself and has to be lexically specified for each case. Lasersohn uses the English verb *nibble* as an example: the individual subevents/ phases of nibbling are small bites. The following example is perhaps better, as it presumably represents a productively formed pluractional:

- (42) *barar* > *barrar* [Saho]<sup>54</sup>  
 'fly' 'flutter'  
 N.B. *barar* 'fly' does not characterize subevents of *barrar*; the relevant predicate is rather something like 'flap the wings in the effort to fly'

Lasersohn's approach to the event-external vs. event-internal distinction has been criticized for not capturing the essence of the distinction (Wood 2007, Tovená & Kihm 2008, Greenberg 2010). I agree with the criticism: fulfilling criterion (c) is indeed not a

<sup>52</sup> Tovená & Kihm (2008:22); the glosses are my own.

<sup>53</sup> Tovená & Kihm (2008:23); the glosses are my own.

<sup>54</sup> Tauli (1958:141), as quoted by Cusic (1981:83).

necessary condition for event-internal plurality.<sup>55</sup> Nevertheless, it is a useful criterion that also plays a role in some of the most typical types of event-internal pluractionals.

The criteria for event-internal pluractionality will now allow me to show that the ‘distribution to parts’ cases of the type discussed above are not event-internal. Starting with criterion (a), the argument identity criterion, the sentences in (43) demonstrate that the pluractional is not restricted to contexts with singular participants:

- (43) a. Gidân yaa rur-rùushee  
house.the 3SG.M.PF RED-collapse  
‘The house collapsed in many places’  
b. Gidàajên sun rur-rùushee  
houses.the 3PL.PF RED-collapse  
‘The houses collapsed’  
N.B. each of them, perhaps one by one

The pluractional form of *ruushèe* ‘collapse’ can be used both when the event units are distributed over parts of a single participant (house) and when they are distributed over different participants (houses). Sentence (43b) can be used if each of the houses simply collapses (not necessarily in many places). The pluractional requires that there be many collapsing events, but there is no restriction as to whether they involve many houses or many parts of the same house.

Criterion (b) also provides evidence for the claim that cases of distribution to parts like (43a) are not event-internal. This is harder to demonstrate as a precise specification of the number of event units in a plural event is generally dispreferred with Hausa pluractionals. However, if a speaker allows for this kind of modification at all, they also allow for it in cases of distribution to parts, as in (44):

- (44) %?Gidân yaa rur-rùushee à wurii biyaĩ  
house.the 3SG.M.PF RED-collapse at place five  
‘The house collapsed in five places’

Finally, application of criterion (c) gives the same result: the individual event units can be described using the same basic verb. In (45a), for example, every event unit of the plural event is an event of collapsing, and can be described by *rushe* ‘collapse’ as in (45b):

- (45) a. Gidân yaa rur-rùushee  
house.the 3SG.M.PF RED-collapse  
‘The house collapsed in many places’

<sup>55</sup> Event-internal pluractionals in Kwarandzyey and Kaqchikel, as described in Souag (2010) and Henderson (2010), respectively, do not (necessarily) involve a change in the character of the event and thus the same basic predicate applies to the subevents as to the whole event.

- b. Katangaa taa ruushèe  
 wall 3SG.F.PF collapse  
 ‘A wall collapsed’

I conclude, then, that cases of pluractionals in which parts of participants serve as anchors for the individual event units are not event-internal. However, it is more accurate to say that event-internal pluractionality is not a necessary consequence of distributing the individual event units to different parts of a single participant. In the remainder of this section, I will argue that there is one subtype of ‘distribution to parts’ cases that should probably be analyzed as event-internal.

As demonstrated in sections 2.4.3. and 2.6.2., there are cases of pluractionals that can be described as referring to actions that are performed superficially or not seriously enough.<sup>56</sup> These cases are not extremely frequent, but they do appear in the data of many speakers. Despite the fact that these uses are probably best understood in terms of event-internal pluractionality, I will argue that they do not require a separate analysis. My claim will be that tentative interpretations arise as a side effect of non-exhaustive distribution to parts, which in turn is a consequence of the preference for the anchors to be clearly separate. Later in the chapter (section 3.6.2.), I will come back to the issue of event-internal pluractionality, in connection to another type of cases that can be characterized as event-internal. What connects these two types, I will argue, is the fact that they both arise as a consequence of restricting the event plurality to a single participant. Nevertheless, each type is a result of using a different strategy to ensure the necessary plural interpretation.

Let us look at some examples of tentative readings:<sup>57</sup>

- (46) a. %<sup>3</sup>Yaa shàs-shàari ðaakii  
 3SG.M.PF RED-sweep room  
 ‘He swept the room superficially’  
 N.B. the effort was not serious enough
- b. %Mun yiy-yi aikii  
 1PL.PF RED-do work  
 ‘Occasionally we found some time for work’  
 N.B. this sounds like the people are not serious workers

<sup>56</sup> Cf. also the discussion in section 1.4.4.

<sup>57</sup> The sentences in (46) are well-formed only for a subset of speakers and, in addition, only a subset of this subset receive the ‘superficial action’ interpretation. Usually, speakers who find the sentences acceptable interpret them simply as ‘he swept all/ different parts of the room’, ‘we did different kinds of jobs’ and ‘they read many/ all the books’, respectively.

- c. %Sun kak-kařàntà littàttàfàn  
 3PL.PF RED-read books.the  
 ‘They read the books superficially’  
 N.B. a bit here, a bit there

Sentence (46a) describes a situation in which the room was not swept properly. In (46b), the use of the pluractional implies that the people did not work seriously enough. Similarly, the reading in (46c) is described as rather superficial. In all these cases, the meaning contribution of the pluractional form seems to be some kind of superficiality in the way the actions are carried out.

Tentative cases of pluractionals are often considered typical examples of event-internal plurality.<sup>58</sup> I will defend the same view, despite the fact that the criteria adopted in this thesis do not actually provide a completely straightforward result. Both criterion (a) and (b) are hard to apply here for lack of relevant data. The pluractional forms themselves are never restricted to contexts with a single participant (criterion (a)), and some of the examples above actually involve plural participants. In such cases, I assume that the ‘superficial action’ interpretation can only arise when each of the participants is linked to a plurality of event units. In particular, each of the books in (46c) has to be associated with a plurality of reading events. Alternatively, the pluractional can get the tentative reading if *littàttàfàn* ‘the books’ is interpreted collectively, that is, as a singular entity.<sup>59</sup> As for criterion (b), the accessibility of the event units, this is generally the most difficult criterion to apply in Hausa. Moreover, I do not have any relevant data for the tentative type. Nevertheless, I do not expect precise specification of the number of event units to be possible in such cases at all, as the event plurality meaning is in fact pushed into the background by the superficiality effect. Finally, according to criterion (c), these pluractional uses might be considered event-internal, since the individual event units can be said to be ‘degraded’ versions of the basic event. Even though the criteria for event-internal pluractionality adopted in this thesis do not give a completely clear result in the case of tentative readings, I consider changes in the nature of the event like the emergence of the superficiality effect a rather reliable sign of event-internal pluractionality. The reasons why this is so will be made more explicit below and in section 3.6.2., where the other type of event-internal pluractionality is discussed.

Tentative cases are typically put together with other cases involving diminution or decrease. The intuitive explanation for the diminution effect that can be sometimes found in the literature (Cusic 1981, Tovenà & Kihm 2008) can be paraphrased as follows: if an event is divided into many pieces the pieces are necessarily rather small. However, it is not very easy to express the intuition more precisely than this. I will not

<sup>58</sup> Or, more generally, cases that involve some form of diminution; cf. Wood (2007), Tovenà & Kihm (2008), Greenberg (2010).

<sup>59</sup> This is in fact very likely since the sentence was used to talk about students not studying hard enough. The books can thus be understood as a collection of study texts required for an exam.

offer a general explanation for the diminutive effect applicable to all cases found across languages. Nevertheless, I will propose an explanation for the emergence of tentative interpretations according to which the connection between the diminution effect and event-internal plurality is very natural.<sup>60</sup> In particular, I will suggest that what the examples in (46) have in common is the fact that they all involve what I will be calling ‘non-exhaustive distribution’, which in turn is a consequence of the need to secure plural anchors in situations that involve a single participant.

In section 2.8.1., I showed that pluractionals seem to give rise to exhaustive interpretations in some cases (47) and to non-exhaustive interpretations in others (48):

- (47) a. Sunàa zàz-zàune  
           3PL.IMPF RED-sit.ST  
           ‘They were all seated’  
       b. Naa nàñ-nèemee tà  
           1SG.PF RED-look.for her  
           ‘I looked for her everywhere’
- (48) a. Gidân yaa rur-rùushee  
           house 3SG.M.PF RED-collapse  
           ‘The house collapsed in some parts’  
           N.B. several places are damaged but the house is probably still usable  
       b. %Kankanaa yaa rur-rùbee  
           watermelon 3SG.M.PF RED-rot  
           ‘The melon is partly rotten’

In (47), the pluractionals are interpreted as implying that all the participants were seated (a) and that all possible places were searched (b). The sentences in (48) exemplify the opposite effect: not all parts of the house have collapsed (a) and not all parts of the watermelon are rotten (b). In section 2.8.1., I also showed that even in the seemingly exhaustive cases, exhaustivity is not a genuine requirement, as the effect can be cancelled easily. Still, it is rather puzzling that the same form can sometimes lead to an apparently exhaustive interpretation while in other cases the interpretation is basically the opposite, i.e. clearly non-exhaustive.

In order to solve this puzzle, I would like to suggest that the ‘exhaustive’ and ‘non-exhaustive’ interpretations both result from the tendency to emphasize the event plurality. I propose that the seemingly exhaustive interpretation is the result of stressing the fact that the participants took part in the event strictly individually:

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<sup>60</sup> Tentative interpretations are the only regular cases of Hausa pluractionals that involve some form of diminution. Other diminutive cases are not formed productively in Hausa – unless conative cases are considered diminutive as well – but repetition of ‘smaller’ events is sometimes found with frozen pluractionals, e.g. *gùrguràa* ‘gnaw’.

- (49) Mutàanên sun      zaz-zàunaa  
 people.the 3PL.PF RED-sit.down  
 'The people all sat down'

If the individual involvement of the participants in the event is stressed, this can give rise to the implication that all the participants were involved.

However, the tendency for high individuation can also lead to the opposite effect. In particular, in cases where the anchors correspond to parts of a single individual, inserting 'gaps' between the parts makes the plurality clearer. In other words, if some parts of an individual are not involved in the plural event and thereby interrupt the continuum, the separateness (plurality) of the entities involved in the plural event becomes more obvious (e.g. in the examples in (48)).

I propose that tentative interpretations arise in some cases as a consequence of such non-exhaustive interpretations.<sup>61</sup> To see how, consider the examples given above again. In (46a), there is a plural event of sweeping for which the event units are mapped to different parts of a single room. If not all but only some parts of the room are associated with an event unit of sweeping, however, the resulting interpretation will be that of an action performed superficially. Similarly for the book reading example in (46c): the sentence describes a situation in which the individual units of the plural reading event are not distributed to all parts of the books. Again, if one reads only some, instead of all, parts of the books, it suggests that the reading was not very thorough.<sup>62</sup> Example (46b) is less transparent since the sentence does not specify what the single participant is that provides the part structure over which the plural event can be (non-exhaustively) distributed. Nevertheless, I suggest that this example represents the same phenomenon. One could think of a number of different tasks that together constitute the 'work' that was supposed to be carried out.<sup>63</sup> If only some of these tasks are done, the result is an interpretation implying superficiality.

As mentioned above, the fact that pluralization sometimes goes hand in hand with decrease or diminution has often been noticed in the literature. Kouwenberg & LaCharité (2003, 2005) offer an approach to this type of effect (in adjectival reduplication in Jamaican Creole) that is very similar to mine. They discuss different cases of reduplication in Jamaican Creole and suggest that the general meaning contribution of reduplication can be paraphrased as 'more of the same'. An apparent counterexample to that generalization can be found in the adjectival domain, where the

<sup>61</sup> As can be seen from (48a-b), tentative readings are not a necessary consequence of non-exhaustive distribution to parts. Whether a pluractional receives a tentative interpretation or not depends also on the lexical meaning of the verb and the specific context.

<sup>62</sup> Recall that in this case either the books are interpreted collectively, or each of the books is associated with a plurality of reading events.

<sup>63</sup> Speakers who accept the sentence in (46b) but do not assign it a tentative interpretation, usually translate it as 'we did many different things/ tasks/ jobs'.

semantic effect of reduplication is a lower degree of the relevant property compared to the non-reduplicated form, or distribution of the property in small portions all over the place, for instance, *yelo-yelo* ‘yellowish, yellow spotted’. According to Kouwenberg & LaCharité (2003:538), “[t]hese [Jamaican Creole] 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”. The characterization “distributed over a single surface” clearly refers to distribution to some (and not all) parts of the surface. Each occurrence of the relevant property is then necessarily ‘smaller’. In that sense the adjectival case in Jamaican Creole is completely parallel to the tentative cases in Hausa.<sup>64</sup>

The suggestion that the diminution effect is caused by the restriction of a plurality of events to a single individual is also supported by the following data from Modern Hindi. In these cases, the diminution effect can be observed when the adjective modifies a singular NP, but not when it modifies a plural NP:<sup>65</sup>

- (50) a. hariiharii (pattiyan) [Modern Hindi]<sup>66</sup>  
           green-green (leaves)  
           ‘very green (leaves)’  
       b. hariiharii saarii  
           green-green sari  
           ‘greenish sari’

To sum up, I suggest that the diminution/ superficiality effect found in Hausa pluractionals arises as a consequence of non-exhaustive distribution of a plural event over parts of a single participant, which in turn serves the purpose of highlighting the plurality of the participant anchors. This type of reading might be considered event-internal. Nevertheless, I suggest that this effect is just a side effect of restricting the event plurality to a single participant, and should not be encoded in the meaning of the pluractional morpheme itself.

### 3.5.5. Related proposals in the literature

It should be clear now that the so-called participant-based cases of pluractionals are by no means simple, as they give rise to interpretations with a high degree of complexity. One of the reasons for this is that even though in many cases participant-based interpretations rely on the existence of natural units, other types of participant units can

<sup>64</sup> Note that Kouwenberg & LaCharité’s explanation accounts directly only for the meaning paraphrased as ‘yellow spotted’. However, it seems plausible that the low degree interpretation (‘yellowish’) can develop from the more clearly plural one (‘yellow spotted’).

<sup>65</sup> The fact that the example in (50a) also involves intensification is not important at this point but see section 3.7.3.

<sup>66</sup> Singh (2005:268).

be created, both above and below the natural ones (groups and parts, respectively), or in cases in which no natural units are available in the first place. Another reason is that verbs often have more than one argument, which makes the situation even more complex.

In this section, I briefly discuss some of the proposals dealing with interpretations that can arise when verbs combine with (syntactically) plural NPs. The insights of these studies are relevant for the discussion of pluractionality because the facts are largely parallel to what can be observed with Hausa pluractionals combining with plural NPs. However, the applicability of such theories to the Hausa data is limited, as these readings represent only a subset of the interpretations found with Hausa pluractionals.

Let us start by looking at an example representing the type of data relevant for the present discussion (repeated from (20)):

- (51) Yârân            sun            dāɗ-dāgà    teebùŋooŋii  
       children.the 3.PL.PF    RED-lift    tables  
       ‘The children lifted some/ the tables’

As already discussed in section 3.5.2., sentences like (51) can be used in many different situations: the children can be involved in the lifting individually or in smaller groups, and the tables can be lifted one by one or in stacks, as long as the event is plural. To obtain more insight into this type of interpretations, let us have a look at how Schwarzschild (1996) and Landman (1996, 2000) deal with the interpretations that sentences with two plural arguments can be assigned. The focus will be on the applicability of Schwarzschild’s and Landman’s proposals to parallel cases of Hausa pluractionals.<sup>67</sup>

Starting with Landman’s (1996, 2000) theory of plurality, one of the basic distinctions is a distinction between singular and plural predication. Singular predication involves the application of a semantically singular predicate to a semantically singular argument. Plural predication refers to cases where a plural predicate is predicated of a plural argument. Singular arguments have two types of denotation: they are either individual atoms, or group atoms. Plural arguments denote sums. Groups are created by a group formation operation ( $\uparrow$ ) from sums. The fact that plural NPs can have either a sum interpretation or a group interpretation makes it possible for sentences like (52) to have both an interpretation according to which each of the boys carried the piano upstairs on his own (distributive interpretations) and an interpretation according to which all the boys together carried the piano (collective interpretation).

- (52) The boys carried the piano upstairs

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<sup>67</sup> It should be kept in mind that neither theory was proposed to deal with pluractional verbs: the ‘plural interpretations’ are plural interpretations of English predicates.

The distributive reading is a case of plural predication. By definition, if a semantically plural predicate (\*P) applies to a sum of individuals (e.g.  $a \cup b \cup c$ ), then the corresponding singular predicate (P) applies to each atom in the sum ( $a$ ,  $b$  and  $c$ ). The collective reading arises when the predicate is interpreted as singular and the argument as a group, rather than as a sum. This means that collective readings involve singular predication.

For the present discussion, it is necessary to consider cases like (53), which involve more than one argument:

(53) Three boys invited four girls

The number of readings assigned to sentences like (53) varies from author to author. On Landman's account, the sentence has eight basic readings, which are derived from the fact that both the subject and the object can be interpreted either as a sum, or as a group, and the availability of a scope mechanism that can derive scoped readings. Scoped readings will not be discussed here as there is no evidence for scope interactions between the arguments of pluractionals. However, it is not very easy to demonstrate that arguments of pluractionals indeed do not interact scopally since sentences with pluractionals parallel to (53) cannot be constructed. This is because pluractionals are incompatible with a precise specification of the number of participants, as shown in section 2.5. of Chapter 2.<sup>68</sup> It is possible for various expressions to take scope over the pluractional but a plural expression scoping over the pluractional cannot license it. Consider the following sentence:

(54) *Sàu dà yawàa taa bub-bùgà teebùr̃*  
 times with many 3SG.F.PF RED-hit table  
 'Many times, she hit the table repeatedly'

The adverbial in (54) takes scope over the pluractional. This means that each occasion has to involve repeated hitting. It is not possible to use this sentence if each occasion involved only one hit, which shows that *sàu dà yawàa* 'many times' cannot license the pluractional in this sentence.

Having excluded scoped interpretations from the discussion, let us return to sentence (53) and the interpretations Landman assigns to it. The basic scopeless readings are the following: both the subject and object are interpreted as groups (a), the subject is interpreted as a sum and the object as a group (b), the subject is interpreted as a group and the object as a sum (c), and both the subject and object are interpreted as sums (d):

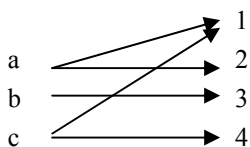
<sup>68</sup> Examples containing a pluractional and an indefinite that could potentially be interpreted as co-varying with the individuals forming the plural subject like 'many boys insulted a teacher' turn out to be extremely difficult to construct and the speaker's judgments are very inconsistent.

(55) *Basic scopeless interpretations of sentences with two plural arguments*  
(Landman 2000):

- a. group subject – group object
- b. sum subject – group object
- c. group subject – sum object
- d. sum subject – sum object

Illustrating the different readings using sentence (53), reading (a) is the reading on which a group of three boys invites a group of four girls. Reading (b) is the reading on which each of the boys individually invites a group of four girls.<sup>69</sup> Reading (c) corresponds to the situation in which a group of three boys invites each of the girls individually. Finally, reading (d) is a reading on which each of the three boys invited some girl and each of the four girls was invited by some boy and it is not specified exactly how the inviting is done (but all the participants are involved in the event individually). A possible scenario that makes the sentence true on reading (d) is given in Figure 3.7. (Landman 2000:208).<sup>70</sup>

Figure 3.7.: Possible scenario for reading (d) of sentence (53)



Note that readings (b-d) are plural, since at least one of the argument NPs is interpreted as a sum. The double collective reading in (a) is singular because both arguments are interpreted as group atoms. In accordance with this, Hausa pluractionals can be used to describe situations corresponding to the plural readings (b-d) but not situations corresponding to the double collective reading (a). This is illustrated by the fact that for sentences like (51) to be felicitous, it is not possible to interpret both the subject and the object collectively.

The plural readings above do not exhaust the interpretive possibilities of sentences like (51), as such sentences are also true on cover readings (which do not belong to the set of basic readings according to Landman 2000). Cover readings are readings where the participants do not take part in the event strictly individually, but rather in subgroups.

<sup>69</sup> Since the reading is scopeless, it has to be the same group of girls for each boy. The same holds for reading (c): each girl is invited by the same group of boys. For details, see Landman (2000).

<sup>70</sup> Landman labels reading (d) ‘cumulative’ (cf. Scha 1981). Nevertheless, not everyone uses the term in this rather narrow sense. For other researchers (Kratzer 2003), the term ‘cumulative reading’ includes other cases that involve two plural arguments without scopal interaction as well, that is, also cover readings, which are discussed below.

Landman (2000:210) gives as an example of a cover reading the most natural reading of the following sentence:

(56) Four hundred fire fighters put out twenty fires

The relevant reading here is the reading according to which some groups of fire fighters put out fires, the total number of fire fighters being four hundred and the total number of fires twenty. Note that sentence (56) does not have reading (d) described above, as a situation in which four hundred fire fighters put out fires as individuals would require at least four hundred fires. By contrast, sentence (53) does have a number of cover readings. For instance, a cover reading would be a reading on which the group consisting of *boy 1* and *boy 2* and the group consisting of *boy 2* and *boy 3* invite two groups of girls, one being formed by *girl 1* and *girl 2* and the other being formed by *girl 3* and *girl 4*. Landman's (2000) definition of cover is given below:<sup>71</sup>

(57) group  $\beta$  is a subgroup of group  $\alpha$  iff  $\downarrow(\beta) \sqsubseteq \downarrow(\alpha)$ .

Let  $X$  be a set of subgroups of group  $\alpha$ .

$X$  covers  $\alpha$  iff  $\sqcup \{ \downarrow(x) : x \in X \} = \downarrow(\alpha)$ .

A plural NP like *four hundred fire fighters* can be assigned any number of cover interpretations, with each block or cell of the cover corresponding to a subgroup.

As shown above, pluractional verbs do allow for cover interpretations. In the case of (51), the children can perform the lifting in smaller groups and the tables can be lifted a few at a time. Thus, one could summarize the applicability of Landman's theory to the relevant Hausa data by saying that sentences like (51) give rise to (scopeless) plural readings: the three basic readings (b-d) and cover readings.

A different approach is taken by Schwarzschild (1996). According to Schwarzschild, there is no need to make a distinction between distributivity to atoms and distributivity to subpluralities: both represent distributivity to the cells of whatever cover is contextually relevant in any particular case. That is, in some cases each cell contains only a single individual – distributivity to atoms – in other cases more – distributivity to subpluralities. All plural readings are thus cover readings. Note that the definition of cover used by Schwarzschild differs slightly from that of Landman's: it makes reference to subsets, rather than subgroups.<sup>72</sup>

<sup>71</sup> Compare this definition to the definition given in (58).  $\downarrow$  maps groups to their members (the corresponding sums).

<sup>72</sup> Cf. also Gillon (1987) and Chierchia (1998). The difference between the two definitions of covers is relevant for the present discussion as will be shown below.

- (58) C is a cover of P if and only if:
1. C is a set of subsets of P
  2. Every member of P belongs to some set in C
  3.  $\emptyset$  is not in C

Schwarzschild's theory of distributivity has a strong pragmatic element to it, which also means that sentences are not assigned a number of different readings but rather a single interpretation that can be validated by several different scenarios, depending on what cover is chosen in the given context.

This type of approach seems to be better suited for Hausa cases like (51), since it does not seem to make sense to differentiate between distributivity to atoms and subpluralities/ subgroups there. Nevertheless, what seems to be less well suited for dealing with Hausa pluractionals is the fact that Schwarzschild does not set collective readings apart from plural readings. In other words, collective readings are not considered singular. On Schwarzschild's account, collective readings constitute a subtype of cover, i.e. plural, readings: they arise in cases where the cover has a single cell. On the other end of the continuum, there are covers that have as many cells as the plurality has members. Thus, collective readings and readings that involve distributivity to atoms are just two extremes, two borderline cases of the same meaning. As a consequence, the distinction between collective and distributive readings disappears from the grammar. As far as Hausa pluractionals are concerned, this does not seem to be a desirable result since now it is not clear why collectively interpreted arguments cannot license pluractionals. Notice that the same holds for distribution to subgroups. For an adequate account of Hausa pluractionals, it is important that each individual event unit is associated with a singular participant which is either an individual or a (sub)group.<sup>73</sup> In Schwarzschild's theory, however, there are no (sub)groups, just (sub)pluralities. One might consider enriching Schwarzschild's system by a condition saying that only readings involving more than one cell are plural. If the cover contains a single cell the interpretation would be singular. This addition would probably solve the problem. Nevertheless, this solution would go against the spirit of the proposal which eliminates the collective vs. distributive distinction from the grammar because they are just extreme cases of the same meaning.

Comparing Landman's and Schwarzschild's proposals, it seems that in order to capture the range of readings that pluractional verbs can give rise to in cases like (51), an intermediate position is desirable. Landman differentiates a number of plural readings where no distinctions are necessary.<sup>74</sup> By contrast, Schwarzschild's approach, despite the

<sup>73</sup> Recall that this is the principle of anchoring: a singular anchor defines an event unit and plural anchors correspond to plural events.

<sup>74</sup> Landman actually has to extend the theory to account for cover readings: they do not belong to the eight basic readings. Cover interpretations are shifted interpretations. In fact, Landman himself points out that once there are cover readings in the theory, all other scopeless readings can be considered borderline cases of the (double) cover reading – just like in Schwarzschild (1996). Landman considers Schwarzschild's theory a

advantage of putting all plural readings elegantly together and leaving a lot to pragmatics, seems to run into problems by not separating (double) collective readings. What seems to be needed for Hausa pluractionals is a theory that does not make unnecessary distinctions on the one hand, but that treats collective readings as singular on the other. This extends to how covers should be defined. In particular, an adequate treatment of Hausa pluractionals would require covers whose cells behave like atomic entities, i.e. subgroups, rather than subsets/ subpluralities. The existence of group atoms and covers defined in terms of subgroups (as in Landman 2000) thus seems necessary. Nevertheless, Schwarzschild's (1996) approach offers a more natural explanation of the range of situations in which sentences like (51) are true. In other words, both proposals bring important insights but neither is perfectly suited to account for the participant-based interpretations of Hausa pluractionals.

Recall that the two theories just discussed were intended to account for non-pluractional data. They are basically theories of how verbs apply to plural arguments. As a result, the overlap with the types of readings found in the case of (Hausa) pluractionals is only partial. A theory explaining how pluractional verbs apply to their arguments would also need to account for cases of distribution to parts, for example. An approach that relies on a general notion of part structure, such as Moltmann (1997), might be better suited for such an endeavor. Nevertheless, it should be clear that even a theory covering all participant-based cases could not be considered a theory of pluractionality, since participant-based interpretations are not the only type of interpretation that pluractionals give rise to.

### 3.5.6. Conclusion

This section discussed cases of Hausa pluractionals derived from predicates that are not naturally atomic. I argued that in such cases, the event units forming a plural event have to be individuated with the help of anchors (see Component 2 in Figure 3.4.). I also argued that there is a constraint on the anchoring process in Hausa: the non-equivalence condition. This condition states that the individual event units should not be just identical copies of each other but that they should rather differ from each other in some way. This effectively rules out cases with temporal anchors, which would result in iterative interpretations. As for the other potential anchors, it was argued that there is no need to differentiate any further subtypes. Locations and participants can be treated alike as far as their anchorhood is concerned. Despite that, participant-based cases deserve special attention because of the level of complexity they give rise to.<sup>75</sup> This complexity

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serious alternative to his own but points to some problems of Schwarzschild's approach as well. For details see Landman (1996, 2000).

<sup>75</sup> Recall that the elements functioning as anchors do not have to be expressed in the sentence and that in some cases it is not even clear what exactly should be understood as anchoring the individual event units. Therefore, not only participant-based interpretations but all types of anchoring cases are more complex than those that do not rely on anchoring.

is mainly due to the existence of collective interpretations and the fact that verbs often have more than one argument. Another reason is the existence of cases where the individual event units of a plural event are anchored by parts of participants. The so-called tentative cases, which represent one of the two types of event-internal interpretations in Hausa, were treated as a subtype of the ‘distribution-to-parts’ cases. Finally, two proposals were discussed that deal with plural interpretations parallel to those found with participant-based cases of Hausa pluractionals. Their applicability to Hausa pluractionals is limited, however, because Hausa pluractionals also give rise to other than participant-based interpretations. Some of them will be discussed in the following section.

### 3.6. Event individuation through natural atomicity

The core meaning of pluractional verbs in Hausa is event plurality: pluractional verbs denote sums of events (cf. Component 1 in Figure 3.4.). As events are very abstract entities, it is also necessary to have a theory of event individuation. I have argued that most verbal predicates refer to events that are not inherently individuated as a result of which the relevant event units have to be created. This is done with the help of individuators that I call anchors (see Component 2 in Figure 3.4.). The previous section was devoted to discussing such cases. Nevertheless, there are also naturally atomic verbs for which the event units are specified lexically, for instance, *shùuraa* ‘kick’, *bugàa* ‘hit’, *màaraa* ‘slap’ (Component 2 does not apply). These cases are dealt with in the present section.

Pluractionals derived from naturally atomic predicates deserve special attention for the following reasons. First, they are the only cases that give rise to temporal-like (repetitive) interpretations. Second, it is not clear whether these verbs should be classified as event-external or event-internal. It seems that in some languages these pluractionals have event-internal characteristics, while in others they pattern with event-external pluractionals. In the following, I will explain how repetitive interpretations arise. I will also argue that these cases should not be considered event-internal with the exception of a specific subtype: the conative cases.

#### 3.6.1. Naturally atomic predicates: no anchoring needed

At first sight, the examples below seem to be blatant counterexamples to the claim that Hausa lacks iterative readings:<sup>76</sup>

- (59) a. Taa           tat-tàbà       hancintà  
           3SG.F.PF RED-touch   nose.her  
           ‘She tapped her nose/ touched her nose repeatedly’

<sup>76</sup> This type of examples is very common and speakers do not hesitate about their well-formedness.

- b. Yaa shùs-shùuri teebùr̃  
 3SG.M.PF RED-kick table  
 ‘He kicked the table repeatedly’
- c. Yaa sàs-sòoke shi  
 3SG.M.PF RED-stab him  
 ‘He stabbed him repeatedly’
- d. Bellò yaa bub-bùgà koofāṛ  
 Bello 3SG.M.PF RED-hit door.the  
 ‘Bello knocked/ banged on the door’

In the situation described by sentence (59a), the nose is touched repeatedly. Sentences (59b) and (59c) refer to repeated kicking and stabbing, respectively. Similarly, in (59d), the felicitous use of the pluractional requires there to be repeated knocking. Looking at these pluractionals more closely, however, it becomes clear that they differ from the unacceptable iterative cases by being derived from semelfactive verbs.<sup>77</sup> Semelfactive verbs refer to short actions that can be, and often are, repeated immediately. This can be related to the fact that they typically involve a movement that ends in the same position where it started. These events lack complex internal structure, and most importantly, they are inherently individuated by virtue of the predicates being naturally atomic (Rothstein 2008; cf. section 3.2.). Natural atomicity means that what counts as one kick or hit does not depend on the verbs’ arguments, context or anything else: it is lexically specified. It is enough to know what verbs like *knock* or *hit* mean to know what constitutes one event of knocking or hitting. This by itself explains why semelfactives in the pluractional form can receive an interpretation involving repetition. Recall that the non-equivalence condition, which rules out all other iterative interpretations, is a constraint on anchoring only. Naturally atomic verbs, however, do not have to rely on anchoring for event individuation. As a result, they are not subject to the non-equivalence condition, which means that the individual event units of plural events can be essentially identical (Component 2 in Figure 3.4. does not apply in these cases).

If pluractional semelfactives combine with singular arguments, the resulting interpretation is naturally that of repetition (cf. (59) and (60)). Nevertheless, repetition is not a necessary interpretation of these verbs, as can be seen in (60b):

- (60) a. Yaaròn yaa bùb-bùgee ni  
 boy.the 3SG.M.PF RED-hit me  
 ‘The boy hit me repeatedly/ beat me up’

<sup>77</sup> Recall that in my use of the term, semelfactive verbs are verbs that have a semelfactive use, rather than being used to refer exclusively to single events.

- b. Yârân            sun    búb-búgee    sù  
 children.the 3PL.PF RED-hit    them  
 ‘The children beat them up’

N.B. there were multiple hits involved, each person could have been hit just once (but possibly many times)

If the pluractional verb has only singular participants, as in (60a), the only possible interpretation is repetition: a single agent hitting a single patient repeatedly. However, if there are plural participants as in (60b), it is possible that no one was hit repeatedly and the hits did not even have to occur in (strict) succession. The only requirement is that the event involves multiple hits.<sup>78</sup>

Note that this is not a case of ambiguity – the sentences in (60a) and (60b) do not represent two different readings of the pluractional. Rather, in both cases the pluractional simply conveys event plurality. The way in which this plurality is distributed over the participants referred to by the verbs’ subjects and objects is not specified by the pluractional itself. While with singular arguments all the event units are necessarily associated with the same participant, in the case of plural arguments each participant can be matched with one or more event units.

Semelfactives are not the only naturally atomic verbs. Rothstein (2008) considers achievements naturally atomic as well and, indeed, verbs like *karyàa* ‘break’ are in some respects very similar to semelfactives, at least in contexts like the following:

- (61) Naa    kak-kàryà fensiĩ  
 1SG.PF RED-break pencil  
 ‘I broke the pencil many times/ into many pieces’

Events like breaking are not repeatable with the same participant. Therefore, if the pluractional combines with a singular argument, the event units are necessarily associated with different parts of the participant, rather than being just repeated.<sup>79</sup>

Having explained how repetitive readings arise, let us have a look at an example that seems to constitute a problem for the plurality analysis. It is the apparent continuous case presented in section 2.3.7.:

- (62) Naa    tut-tùurà mootàa  
 1SG.PF RED-push car  
 ‘I pushed the car’  
 N.B. %continuously, without stops

<sup>78</sup> Nevertheless, total simultaneity is very unlikely because that would suggest collective action (cf. section 3.5.3).

<sup>79</sup> There is some evidence that cases like (61) should be understood as involving natural atoms, rather than anchoring by parts. In particular, (61) is accepted without any problems even by speakers who generally disprefer distribution to parts.

As already suggested in section 2.3.7., example (62) could be analyzed as describing a situation involving repeated inputs of energy: the person pushes again and again, repeats his or her effort, but the movement is actually never interrupted. Looking at the example in light of my account of how the event units in a plural event are individuated, it is clear that a repetitive interpretation should only be possible with predicates that are naturally atomic. Indeed, I suggest that *tuuràa* ‘push’ is used in a semelfactive sense here. This kind of meaning is the meaning of *push* in *push the button*. Pushing a button is different from pushing a cart. It is like kicking or hitting in that it can be represented by the same type of trajectory (characterized by returning to the starting point), and it is also naturally atomic. Presumably, *tuuràa* ‘push’ receives this type of reading in (62) more easily if the car is heavy and thus repeated inputs of energy are required. Thus, the semelfactive sense of *tuuràa* enables the repetitive interpretation, but the repetitiveness of the action is obscured because the agent maintains contact with the object pushed. The fact that the individual event units of pushing can be repeated almost without any visible transitions gives the impression that the event is continuous. In comparison to pushing, repeated hitting can also consist of hits that follow each other without any pauses between them, but in the case of hitting it is always clear where one hit ends and another begins. The fact that the gaps are much less visible in the case of (62) explains also why the example is only marginally accepted: the use of pluractionals generally requires that the plurality of event units is evident.

There is one more type of repetitive cases that has not been discussed yet: the so-called conative cases. I will analyze them in the following section since these uses are best discussed in relation to the question of whether repetitive pluractionals (the so-called *knock*-type pluractionals) should be considered event-internal or not. I will argue that, with the exception of the conative cases, repetitive interpretations do not represent event-internal plurality.

### 3.6.2. Event-internal status of ‘repetitive’ cases and conative interpretations

Some researchers have proposed analyses of pluractional semelfactives (*knock*-type pluractionals) in terms of event-internal plurality (cf. Wood 2007, Henderson 2010, Souag 2010, Greenberg 2010; for a different view see Tovenà & Kihm 2008). While this might be the right approach for some languages, I will argue that in Hausa the *knock*-type cases are not event-internal pluractionals since they do not fulfill the criteria for event-internal plurality presented in section 3.5.4.2. Nevertheless, I will also argue that there is a subtype of repetitive cases that are probably best analyzed as event-internal, namely, the so-called conative cases.

Let me start by demonstrating on the basis of *mammara* ‘slap.PLC’ that pluractional semelfactives are not event-internal. Criterion (a) states that the individual event units of an internally plural event are necessarily mapped to the same argument. Sentence (63)

below demonstrates that argument identity across event units is not required with verbs like *mammara*:

- (63) Taa            màm-màari    yârân  
       3SG.F.PF   RED-slap    children.the  
       ‘She slapped the children’  
       N.B. many slaps in total but possible if she slapped each child once only

The fact that each child could have been slapped once only shows that each of the individual event units forming the plurality can have a different participant. Criterion (b), the accessibility criterion, is harder to use in Hausa, since pluractionals are in general not compatible with numerals specifying the number of events. However, some speakers do accept modification by *x-times* adverbials – at least if they contain vague quantity modifiers, rather than numerals, as is the case of *sàu dà yawàa* ‘many times’. In those cases the adverbials can specify the number of the individual subevents:

- (64) %Taa        màm-màaree shì    ?sàu goomà/ ?sàu dà yawàa  
       3SG.F.PF   RED-slap    him    times ten/    times with many  
       ‘She slapped him ten/ many times’

In (64), the relevant reading is the one in which the total number of slaps was ten/ many. Thus, it can be concluded that the event units are accessible for counting if the speaker allows for more or less precise specification of the number of event units in general.<sup>80</sup> Finally, criterion (c) points to the same conclusion. Every individual slap constituting the plural slapping in (65a) can be described using the simple verb *màaraa* ‘slap’ (65b):

- (65) a. Taa        màm-màaree shì  
       3SG.F.PF   RED-slap    him  
       ‘She slapped him many times’  
       b. Taa        màaree    shì  
       3SG.F.PF   slap        him  
       ‘She slapped him’

The conclusion is very clear then: pluractionals like *màmmaaràa* are not event-internal. The same pattern is found with all lexical semelfactives. However, it is an interesting fact about this type of pluractionals that they appear to be event-internal in other languages (Wood 2007, Henderson 2010, Souag 2010). This is in accordance with Tovenà & Kihm’s (2008) suggestion that *knock*-type pluractionals constitute a special class, standing somewhere between event-external and event-internal pluractionality. I

<sup>80</sup> Recall that for some speakers the *x-times* adverbials can also specify the number of sequences of slaps. Nevertheless, in such cases, the adverbial would normally be placed at the beginning of the sentence:

- (i) Sàu        goomà    taa            màm-màaree shì  
       times    ten        3SG.F.PF   RED-slap    him  
       ‘Ten times, she repeatedly slapped him’

suggest that this is due to the nature of this type of events, in particular, their simplicity. It has been observed in the literature that for events to be suitable event units of internally plural or complex events, they must not be complex themselves (Wood 2007:134). Semelfactives, as predicates that refer to very simple events, thus have the potential to give rise to event-internal pluractionality. An explanation of why they sometimes do and sometimes not can be proposed if Henderson's (2010) distinction between two types of event atoms is adopted, namely, the distinction between mereological and aspectual atoms. For example, events of the accomplishment type, are not aspectually atomic, since they consist of several parts/ phases (preparatory process, culmination, consequent state, in Moens & Steedman's 1988 terminology). A single (complete) event of the accomplishment type can however be considered a mereological atom. By contrast, events of the semelfactive type are not only mereological atoms, they are also aspectual atoms because they do not have any subparts. Both types of atoms can serve as the units that pluractionals make use of. Naturally, however, pluractionals that are formed with respect to these two different types of atoms also have different properties. In Henderson's (2010) paper, this is illustrated by the contrast between Karitiana pluractionals, which arguably make use of mereological atoms, and one type of Kaqchikel pluractionals, which take aspectual atoms as their units and exhibit some properties of event-internal pluractionality. If event-internal pluractionality presupposes aspectual atoms, and if semelfactives have units in their denotation that are both mereological and aspectual atoms, it is not surprising that they can form both types of pluractionals. Thus, in Hausa, whose pluractionals presumably operate on mereological atoms, pluractional semelfactives do not have event-internal properties. Nevertheless, nothing prevents semelfactives to derive event-internal pluractionals in other languages.

While semelfactive (*knock*-type) pluractionals are not event-internal in Hausa, I would like to argue that Hausa has one more type of event-internal pluractionals, apart from the tentative cases. These are the so-called conative cases. Despite the fact that conative cases are best analyzed as cases of event-internal pluractionality, I will argue that it is not necessary to assume a separate analysis for them. Conative cases represent a subtype of repetitive cases, and the conative interpretation is a result of coercion. Consider the following two examples (cf. section 2.4.3.):

- (66) a. %Naa dàd-dàgà teebùr̃  
           1SG.PF RED-lift table  
           'I tried to lift a table'
- b. Naa tut-tùurà kaayân  
           1SG.PF RED-push stuff.the  
           'I tried (repeatedly) to push the things in'

In (66a), the person is (repeatedly) trying to lift the table. Sentence (66b) can be used, for example, if someone is attempting to fit things into a car that is already too full. I will first discuss how conative interpretations arise. Subsequently, I will show that, according

to the criteria adopted in this thesis, these cases seem to represent event-internal pluractionality. Finally, I briefly discuss what the two types of event-internal interpretations found in Hausa – the tentative and conative interpretations – have in common. I will also address the related question why event-internal pluractionals tend to give rise to special meaning effects of this type.

I propose that cases like (66) above should be treated as cases of coercion. A more complex event of the accomplishment type is coerced into a simpler one in which the culmination phase is eliminated (cf. Wood 2007, Henderson 2010) and it is this reduced event that is pluralized. Further, I propose that this kind of coercion is a way to provide an interpretation for sentences that would otherwise be unacceptable due to the lack of plural anchors.<sup>81</sup> Coercion into a simpler event type is a successful rescue strategy because it turns the given verbal predicate into an inherently atomic one that does allow for a repetitive interpretation.

Let us have a look at how this works. In the situation described by sentence (66a), if someone tries to lift a table and does not succeed, the event resembles events referred to by semelfactive verbs: since the culmination stage is not reached, the movement ends where it started. This kind of ‘trajectory curve’ is characteristic of events such as winking, knocking, kicking, hitting etc. It is precisely what identifies the event units in these cases, making the events immediately repeatable at the same time. By turning a lifting event into an attempt to lift, the culmination stage of the lifting event is removed. As a result, an event of the accomplishment type is turned into a semelfactive event. This means that the predicate becomes inherently atomic, allowing for the repetitive interpretation to arise in the way described in the previous subsection. In the case of (66a), the repetition involves the atomic events of table-lifting attempts. The same can be said about (66b): if the subject fails to push something into its target location, she ends up where she started. Thus, in this case as well, by cutting off the culmination stage, an atomic event of the semelfactive type is created. The meaning of such an atomic event is comparable to the one discussed in connection with the apparent continuous example (62): *tuuràa* ‘push’ in (66b) resembles the ‘count’ use of *push* in *push a button*.

Coercion should be a strategy employed only when necessary (cf. de Swart 2011a). Also the type of coercion found with conative cases is presumably only available with certain types of predicates, namely those that refer to events whose culmination-less forms resemble events of the semelfactive type. Hence conative cases are relatively rare, despite the systematicity with which this type of interpretation is assigned.

Note also that the approach to the conative readings taken here is in accordance with Henderson’s (2010) observation that semelfactive verbs do not seem to give rise to conative readings when pluralized: the pluractional form of the verb meaning ‘wink’

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<sup>81</sup> In example (66b), one could possibly imagine another plural interpretation, namely, one where parts of the load were pushed in the car one by one. However, this type of interpretation did not seem available for the speaker who offered this judgment.

cannot mean ‘try to wink’. This is expected on the present account as well. The purpose of the coercion is to create a naturally atomic predicate, thus it does not occur with predicates that already are naturally atomic.<sup>82</sup>

The diagnostics for event-internal pluractionality used in this thesis provides a clearer picture in the case of conative interpretations in comparison to the tentative cases (see section 3.5.4.2.). The argument identity criterion (a) is satisfied: there are necessarily plural attempts per individual. Criterion (b), based on the accessibility of the event units, cannot be used in these cases for lack of the relevant data. Criterion (c), however, provides a clear answer: conative cases are event-internal since the individual event units in e.g. the table-lifting context (66a) are not themselves table-lifting events because they do not reach the culmination stage.

I conclude that conative interpretations are event-internal. Importantly, just as in the case of the tentative readings, a separate analysis for conative cases is not necessary, since in both cases the event-internal interpretation arises as a side effect of the restriction of the event plurality to a singular participant. In the tentative cases, it is a result of the requirement to provide parts within the single participant of the event that are clearly separate. In the conative cases, sentences that would otherwise be unacceptable are saved by coercing the verbal predicate into an inherently atomic one, which then allows for a repetitive interpretation. Since both tentative and conative interpretations arise as a consequence of linking the event plurality to a singular argument, it is not surprising that these cases pattern with event-internal pluractionals. One of the defining properties of event-internal plurality is exactly that: plural event units per argument (criterion (a)). The explanation for these two types of event-internal interpretations offered in this thesis relates them in a meaningful way by defining the link between event-internal plurality on the one hand, and the tentative and conative meaning effects on the other.

### 3.6.3. Conclusion

This subsection concludes the discussion of how event units of plural events are individuated. All Hausa pluractionals refer to plural events. However, the way in which event plurality is manifested depends on what type of predicate is used in any given case. I have suggested that all verbal predicates can be divided into two categories: those that

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<sup>82</sup> Both Wood (2007) and Henderson (2010) propose an analysis of conative cases that is very similar to the one offered here. The difference is that while on my approach, coercion saves the sentences because it leads to natural atomicity and by that enables repetitive interpretations, in their formulation, coercion is necessary for creating events that are sufficiently simple. This is connected to the event-internal nature of conative cases. According to Wood (2007), in the case of event-internal pluractionality, the events that get pluralized should not be complex themselves. For Henderson (2010), the type of pluractionals that can give rise to conative readings in Kaqchikel operate on aspectual atoms, i.e. events that have no internal aspectual structure. Clearly, these different explanations are not in conflict: semelfactives, while being naturally atomic predicates, refer to events that are also aspectually simple. The differences in the accounts rather reflect differences in the requirements various pluractional markers impose on the predicates they combine with.

are naturally atomic and those that are not. In the case of naturally atomic predicates, the event units are lexically specified. All other predicates need to rely on ‘anchors’ for the event units to be separated from each other.

In the next section, I turn to the discussion of the third component of the meaning of pluractionals in Hausa, which is responsible for many of their specific properties: the conditions on use following from the fact that Hausa pluractionals are special plurals.

### 3.7. Meaning effects of special plurality

In section 3.3., I proposed that the interpretation assigned to Hausa pluractionals is a result of three components: (a) the core meaning of the pluractional (event plurality), (b) independent principles of event individuation constrained by the non-equivalence condition, and (c) additional conditions on use following from the fact that pluractionals are special plurals (see the schema of the three-component system in Figure 3.4.). The first two components have been discussed in the previous sections. The present section deals with the third component. It will be argued here that the remaining properties of Hausa pluractionals follow from their ‘special plural’ nature. An important aspect of these properties or meaning effects that should be kept in mind is that the conditions they follow from are not fixed and inviolable to the same extent as the other meaning components, i.e. the plurality condition and the non-equivalence condition. These conditions are weaker and the meaning effects they give rise to are much harder to pin down. At the same time, as shown in Figure 3.4., the third component plays a role for all types of verbs. In this respect it differs from the second component, which only applies to non-atomic predicates.

The notion of special plurality has already been introduced. Special plurals are plurals that express meanings that go beyond simple plurality (‘more than one’). I propose that Hausa pluractionals are special plurals and this accounts for the remaining properties of Hausa pluractionals. The most prominent additional meaning effects associated with the use of Hausa pluractionals are: large number of event units, high individuation and intensification. These and other additional meanings seem to arise as a consequence of the fact that the non-pluractional form is number-neutral, that is usable in plural contexts as well. In addition, the special status of Hausa pluractionals is emphasized by the fact that they are rather marked and infrequently used forms.

In the subsections to follow, these individual effects representing an addition to the basic plurality meaning will be discussed one by one. The section is organized as follows. The requirement that the number of event units should be large will be discussed in section 3.7.1. Section 3.7.2. deals with the preference for high individuation, which is related to but separate from the non-equivalence condition. Cases of intensification will be discussed in section 3.7.3. Section 3.7.4. discusses an interesting interaction of the three meaning effects mentioned above. Section 3.7.5. deals with some other meaning effects,

which occur only with some speakers. Section 3.7.6. concludes the discussion of special plural effects.

### 3.7.1. Large number

In Hausa, the use of the pluractional form implies that the event units are relatively many, rather than simply plural. ‘Many’ should be understood as implying that the number of the event units is large but also impossible to specify precisely. Consider the following examples:

- (67) a. Mutàanee <sup>?</sup>dà yawàa/ <sup>?</sup>dārii/ ??biyaĩ/ <sup>?</sup>\*biyu sun fiĩ-fiĩto  
 people <sup>?</sup>with many/ ?hundred/ ??five/ <sup>?</sup>\*two 3PL.PF RED-come.out  
 ‘Many/ ?hundred/ ??five/ <sup>?</sup>\*two people came out’
- b. Taa mām-màaree shì <sup>?</sup>sàu dà yawàa/ ??sàu biyaĩ  
 3SG.F.PF RED-slap him <sup>?</sup>times with many/ ??times five  
 ‘She slapped him (repeatedly) <sup>?</sup>many/ ??five times’

(67) illustrates that the number of the event’s participants (a) or repetitions (b) should not be specified. The degree of degradedness is higher if the number is very low. Vague quantity expressions are generally quite acceptable. Nevertheless, it is best if the number of event units is not specified at all:

- (68) a. Mutàanee sun fiĩ-fiĩto  
 people 3PL.PF RED-come.out  
 ‘Many of people came out’
- a. Taa mām-màaree shì  
 3SG.F.PF RED-slap him  
 ‘She slapped him many times’

I propose that this effect reflects the fact that Hausa pluractionals are special, rather than simple, plurals. Recall that a comparable effect can be found in the nominal domain in Arabic, for example:

- (69) ašja:r šajar [Arabic]<sup>83</sup>  
 ‘lots of trees’ ‘tree’ (generic/ collective)

In (69), the non-plural form *šajar* is number-neutral and the plural form *ašja:r* is a ‘plural of abundance’. This is clearly parallel to the situation found with Hausa pluractionals.

The ‘large number’ effect seems to be rather typical of pluractionality (cf. Corbett 2000). Nevertheless, there do seem to be cases of pluractionals indicating simple plurality. Consider the following example from Karitiana:

<sup>83</sup> Cusic (1981:18).

<sup>86</sup> Another argument in favor of treating the ‘large number’ effect as following from special plurality will be presented in section 3.7.4. A comparison to how this effect is captured in Lasersohn’s (1995) theory is given in section 3.9.

- c. Mutàanee sunàa zàz-zàune  
 people 3PL.IMPF RED-sit.ST  
 ‘The people are sitting’  
 N.B. %here and there/ scattered around

Sentence (71a) can be used, according to some speakers, if the event is an event of buying different kinds of things, in different shops, at different times. Also (71b) has a ‘different kinds’ interpretation for many speakers. (71c) is sometimes interpreted as implying that the people were scattered. The preference for high individuation or diversity can also be seen from the fact that expressions like *dàban-dàban* ‘different/distinct’ are often used in sentences volunteered by the speakers:

- (72) Mutàanee sun ɓùɓ-ɓullà a wuràaree dàban-dàban  
 people 3PL.PF RED-appear at places different-different  
 ‘People have appeared in different places’

In section 3.5., I showed that the event units of pluractional events have to be individuated: they must be distinguished from each other in some dimension. Nevertheless, as can be observed in (71a), this individuation or differentiation often takes place in more than one dimension. In fact, this is typically the case.

Note that the high individuation requirement cannot be analyzed as an optional strengthening of the non-equivalence condition. In fact, even though these two conditions probably have the same source, the high individuation condition represents an independent requirement. This can be seen from the fact that the high individuation effect is also sometimes found in cases where the non-equivalence condition does not apply at all:

- (73) Taa màm-màaree shi  
 3SG.F.PF RED-slap him  
 ‘She slapped him many times’  
 N.B. %not simple repetition: hitting the person in different places<sup>87</sup>

Repetitive interpretations can only arise with inherently atomic predicates. In such cases, the non-equivalence condition does not apply since it is a condition on anchoring only. Nevertheless, some speakers still tend to interpret these cases not as involving simple repetition but rather repetition with some internal variation. In addition, some speakers report this effect with conative cases as well:

- (74) %Naa dād-dāgà teebũr  
 1SG.PF RED-lift table  
 ‘I tried to lift a table’  
 N.B. %not just repeated attempts: trying different angles, corners of the table etc.

<sup>87</sup> Also with more strength; cf. the following subsection.

Recall that the non-equivalence condition does not apply in conative cases either, since this type of interpretation is a result of coercion of a predicate that is not inherently atomic into one that is. Evidence of this type supports the conclusion that the high individuation requirement is independent of the non-equivalence condition.

The high individuation effect, when present, makes Hausa pluractionals resemble the distributive forms found in e.g. North-American languages, both in the verbal and nominal domains, as illustrated by the examples in (75):

- (75) a. Wa'khninónnion' [Mohawk]<sup>88</sup>  
 FACTUAL-1SG.AGENT-buy-DISTRIBUTIVE.PRF  
 'I bought different things'
- b. otsikhe'ta'shòn:'a' otsikhè:ta' [Mohawk]<sup>89</sup>  
 'various candies' 'sugar, candy, candies'

Also, notice that the 'large number' and 'high individuation' effects can often be found with a single form:

- (76) ?asmāk samak [Syrian Arabic]<sup>90</sup>  
 'many or various fish' 'fish'

This is not surprising if they are both analyzed as manifestations of special plurality. Since there is a clear parallel between Hausa pluractionals and the nominal special plurals illustrated above, I suggest that the 'high individuation' effect reported for Hausa pluractionals is best analyzed, just like the 'large number' effect, as a consequence of these forms being special plurals.

### 3.7.3. Intensification

Pluractional verbs, also in Hausa, have sometimes been called 'intensive verbs' (e.g. Frajzyngier 1965, Schaefer 1994). The term suggests that the meaning of these markers involves degree semantics, rather than plurality. This is, however, not confirmed by the data, at least in Hausa, where the core meaning of pluractionality is clearly that of event plurality. Nevertheless, there are some cases that look very much like degree modification. Consider the following examples:

- (77) a. Yâraa sun rur-rùudèe  
 children 3PL.PF RED-be.confused  
 'The children were very confused (beyond control, alarmed)'

<sup>88</sup> Mithun (1999:90); the translation is modified based on the discussion in the text.

<sup>89</sup> Andrade (1933:187); as quoted by Mithun (1999:88).

<sup>90</sup> Cowel (1964:369).

- b. %Mun gàg-gàji  
 1PL.PF RED-be.tired  
 ‘We are very tired’

Notice that if the subjects are singular, the sentences become unacceptable:

- (78) a. %?Yaa rur-rùudée  
 3SG.M.PF RED-be.confused  
 intended: ‘He is very confused’  
 b. ??Naa gàg-gàji  
 1SG.PF RED-be.tired  
 intended: ‘I am very tired’

It should be mentioned that not all speakers accept the pluractional forms above on the high degree interpretations, if they accept the forms at all. In fact, many speakers would assign these pluractionals simply plural interpretations. (77b) would, then, mean simply ‘We are (all) tired’. In spite of that, some high degree cases are found in the pluractional data of most speakers.

In this subsection, I propose that the ‘high degree’ effect should be treated as another manifestation of the fact that Hausa pluractionals are special plurals. This approach explains (a) why plurality is still required in high degree cases – cf. the unacceptability of (78), (b) why the effect can be sometimes cancelled or replaced by another ‘special plural’ effect (to be demonstrated below and in the following subsection) and (c) how it is possible that the intensification effect is not found only with gradable predicates (see below).

I propose that even in cases like (77) above, event plurality is the basic meaning of the pluractional. The high degree interpretation is an additional meaning, the extra ingredient that makes the plural a special one in these cases. Just like the ‘large number’ or ‘high individuation’ effects are possible ‘additions’ to simple plurality, intensification provides such a supplementary meaning as well. Intensification is just another way of enhancing the basic plurality meaning.<sup>91</sup> The fact that intensification can accompany plurality in the nominal domain as well supports this analysis:

- (79) buyu:ta:t                      bayt/buyu:t                      [Arabic]<sup>92</sup>  
       ‘big, important houses’    ‘house’/‘houses’

<sup>91</sup> Součková & Buba (2008) propose that the semantics of Hausa pluractionals contains a degree component that is responsible both for the ‘large number’ and ‘high degree’ effects. I no longer believe that this is the right way to approach these cases. Nevertheless, the idea that the ‘large number’ and ‘high degree’ effects are tightly connected is part of the present proposal as well. For a discussion of degree effects found with pluractionals in other languages cf. Wood & Garrett (2002), Wood (2007) and Henderson (2010).

<sup>92</sup> Cusic (1981:17).

Thus, as in the case of the other special effects, I propose that intensification is not part of the core meaning of the pluractional. Rather, it can arise as one of the special meaning effects that pluractionals generally have. Apart from the parallel with the nominal domain, there is more evidence for treating the intensification effects this way.

First, some of the speakers who get high degree readings with pluractionals can subsequently negate the high degree interpretation without giving rise to a contradiction:

- (80) a. Mun gàg-gàji  
 1PL.PF RED-be.tired  
 'We are very tired'
- b. %Mun gàg-gàji àmmaa bà sosai ba  
 1PL.PF RED-be.tired but NEG very.much NEG  
 'We are tired but not very much'

This suggests that at least for some speakers intensification is a cancellable part of the meaning of the pluractional. By contrast, the plurality meaning can never be cancelled. This shows that the high degree interpretation comes from a much less stable part of the meaning of the pluractional. Some speakers seem to be able to drop this additional meaning completely, even though they normally interpret a certain class of cases as intensified.

A second piece of evidence for the idea that the high degree effect is a manifestation of Hausa pluractionals being special plurals (rather than it being the result of degree modification) is that the intensification effect is also found with verbs that are not strictly speaking gradable:

- (81) a. Naa tòokàree shi  
 1SG.PF poke him  
 'I poked him'  
 N.B. it can be gentle
- b. Naa tàt-tòokàree shi  
 1SG.PF RED-poke him  
 'I poked him'  
 N.B. %repeatedly and with strength

In cases like (81), it is hard to speak of a higher degree of a property expressed by the verb. Instead, the 'intensification' effect can be described as an implication that the event was somehow more 'serious' or 'abnormal' in some way. Rather than degree modification, these cases seem to involve some kind of very general emphasis that with gradable and semi-gradable verbs might be translated as intensification.

Finally, it should be also said that some cases involving intensification might be simply lexicalized as such. This is clearly the case in the following example:

- (82) Yaa        bub-bùudě    idòo/idàanu  
       3SG.M.PF RED-open    eye/eyes  
       ‘He opened his eyes very wide, in a threatening way’

The form *bubbùuděe* ‘open.PLC’ has otherwise a regular plural meaning: the pluractional can, for example, be used to talk about opening many windows (cf. example (56) in Chapter 2). In (82), the interpretation involves intensification, but the sentence also conveys that the person being talked about opens his eyes in this way in order to threaten someone, which is by no means a regular contribution of the pluractional marker. Apart from this very clear case, there might be other lexicalized cases. The form *urriiuděe* ‘be.confused.PLC’ (77a) is another candidate. Even speakers who reject all other potential high degree cases generally do accept this one.

Having discussed the three most typical additional meaning effects accompanying the use of the pluractional form in Hausa, I will show in the next subsection how these effects can interact with each other. This interaction can be taken as direct evidence for the claim that these three special effects have the same source.

### 3.7.4. Compensation effects

The three meaning effects discussed above typically cooccur: the event units in a plural event are often both many and various or many and intensified. The following example nicely illustrates that all three effects can combine in a single form:

- (83) Taa        mà-màaree shi  
       3SG.F.PF RED-slap    him  
       ‘She slapped him many times’  
       N.B. one speaker describes the situation as involving many slaps, coming from all directions and being stronger than usual

This is only natural if all these meaning effects are a consequence of the pluractional form being a special plural. Nevertheless, probably the strongest argument for analyzing these special effects as having the same source is the fact that the presence of one special effect can compensate for the lack of another. The data are rather subtle but the effect is found with a number of speakers. Consider the comments offered by the speakers for the examples below. The two examples are from two different speakers.

- (84) a. Sun    jij-jiraa    shi  
       3PL.PF RED-wait.for    him  
       ‘They waited for him’  
       N.B. the speaker comments that the sentence can be used to talk about as few as two people if they are waiting for different reasons (they might have separate appointments); if the reasons are not different (one appointment), the people waiting should be many

- b. Mun gog-gòodee  
 1PL.PF RED-thank  
 ‘We thank you so much!’  
 N.B. it is possible that ‘we’ refers to two people only, provided that the degree of being thankful is very high

Normally, the number of the event units in a plural event (as reflected in the number of the participants) in the cases above should be relatively large. However, for some speakers at least, the number of the event units (reflected in the number of participants) can be low if the events are clearly differentiated (84a) or if the degree of the property expressed by the predicate is high (84b). This is in fact expected on the present account. If the three additional meaning effects have the same source – special plurality – it is only natural that for certain speakers they are partly interchangeable. Another example of the same phenomenon is given below:

- (85) %Yaa bub-bùudè kafaafuwànsà/ hannuwànsà  
 3SG.M.PF RED-open legs.his/ arms.his  
 ‘He opened his legs/ arms wide’

Sentences like the one above are generally not accepted because people normally have only two legs/ arms, which for most speakers is not enough to license a pluractional. There are speakers who accept cases like (85). However, these speakers then usually report an additional meaning effect: intensification. Note that this effect does not arise if the number of affected objects is larger. Again, I propose that the high degree interpretation compensates for the low number of the event units and that that is only possible because these are both just different manifestations of special plurality.

Other examples demonstrating essentially the same can be found. Examples where the number of events can be specified (and low) if the event units are sufficiently differentiated along a certain dimension (86a), or where a comical effect is obtained because the low number of events forces an interpretation of the pluractional as referring to an event that is very serious (86b):<sup>93</sup>

- (86) a. %Anàa gíg-ginà màkàřàntun sakandāřèe gùdaa biyař  
 IMP.IMPF RED-build schools.of secondary unit five  
 ‘Five secondary schools are being built’  
 N.B. the sentence is acceptable if the building takes place in different towns
- b. %?Kàajiinaa biyu sun muř-mutù  
 chickens.my two 3PL.PF RED-die  
 ‘My two chickens died’  
 N.B. there is a comical effect because the use of the pluractionals makes the event sound very serious

<sup>93</sup> The example in (86a) is based on an example from Pawlak (1975:146).

To conclude, the fact that pluractionals are special plurals is typically manifested as an implication that the event units are many and varied and, where possible, also somehow more serious or ‘intensive’. Nevertheless, at least some speakers can accept pluractionals without some of these meaning effects, as long as this lack is compensated by another special effect, i.e. as long as the special character of the plural form is manifested in some way. These compensation effects thus provide a strong argument for the claim that all these special effects have the same source.

### 3.7.5. Other special effects

In this subsection, I discuss several other related special effects that the use of the pluractional form can have. It is not completely clear to me to what extent these are still to be considered manifestations of special plurality, and to what extent they follow from the fact that pluractionals are simply marked forms in Hausa. Most likely, the stylistic effects can be derived from the fact that pluractionals are not used very frequently. The other effects can be viewed as extensions of some of the special plurality effects discussed above. In any case, the special effects to be discussed below occur in the data of only a subset of the speakers I have consulted. However, considering that variation in judgments is so typical for Hausa pluractionals and especially in the case of these additional meanings, I briefly discuss even these less common effects. The effects discussed here are: affective connotations (typically negative), implication of disorder and/or unintentionality/ unpredictability and colloquial style.

To start with the effect that is most clearly stylistic in nature, some speakers associate the use of pluractionals with colloquial Hausa, and do not consider their use appropriate in contexts that would require standard or more formal language. As a result, speakers who intend to speak ‘proper Hausa’ might avoid their use altogether or use only those forms that are very common.

Another effect that could potentially be considered stylistic are certain affective connotations associated with the use of the pluractional form. In particular, for some speakers the use of the pluractional implies that the event being described is to be evaluated negatively in some sense. For example, one speaker commented on the sentence below that it sounds like someone is complaining about what happened:

- (87) Mutàanee sun fĩr-fítoo  
 people 3PL.PF RED-come.out  
 ‘Some people have come out’  
 N.B. the speaker comments that this is not what was supposed to happen – for example, these are people who went to watch a movie but left the cinema soon after the movie started

However, in some cases the negative evaluation might be just a consequence of a different implication brought about by the use of the pluractional form, namely, that the action was performed in a disorderly fashion:

- (88) Yaa      dāf-dòorà      littàttàfai      a kân      teebũr  
        3SG.M.PF RED-put      books      on top.of table  
        ‘He put some/ the books on the table’  
        N.B. the books are spread all over, there is no space for other things (the speaker  
        is complaining about the fact)

The ‘disorderly event’ effect is not stylistic. It can be understood as a variation of the ‘high individuation’ effect. The requirement that the event units should be possibly clearly individuated can lead to the implication that the events occur ‘here and there’ and as such are scattered. In situations in which ‘scatteredness’ is not appropriate, the use of the pluractional can imply negative evaluation.

The tendency for high individuation of the event units could also be behind the following effect. Some speakers find combinations of certain TAMs (e.g. habitual, future etc.) with pluractionals less acceptable:

- (89) %?Takàn      tāt-tàmbàyeè nì kudîn      kaayaa  
        3SG.F.HAB RED-ask      me money.of things  
        ‘She always asks me how much everything costs’

The generalization seems to be that some speakers find pluractionals less felicitous when combined with TAMs that presuppose a high level of predictability because the use of the pluractional implies unpredictability for these speakers.<sup>94</sup> This effect does not seem to be very different from the ‘disorderly action’ effect and as such it could also be understood as an extension of the ‘high individuation’ effect. However, the ‘unpredictability’ effect can be cancelled quite easily if a suitable context is provided. Once the context ensures predictability, the sentences improve.<sup>95</sup>

<sup>94</sup> Alternatively, it could also be just a reflection of the idea that the events described by pluractionals are simply ‘unusual’ in some way or another, which makes the use of these forms e.g. in habitual contexts less plausible.

<sup>95</sup> This explanation, however, does not extend to all cases of incompatibility of pluractionals with specific TAMs. In particular, I have no explanation for why some speakers find pluractionals in combination with the relative TAMs (used in relative clauses, focus constructions and *wh*-questions) less acceptable. In addition, there are other similar effects (reported by a small number of speakers) that are not discussed here. In particular, some speakers reject pluractionals in combination with certain grades (these are in fact some of the same speakers rejecting pluractionals in certain TAMs). One grade that is not easily compatible with the pluractional semantics for some speakers is grade 5, i.e. the grade expressing roughly causativity (cf. section 2.2.3.). I could speculate that the idea of deliberate actions like selling or teaching; *sayaŕ* (dà) ‘sell’, *kaŕantaŕ* (dà) ‘teach’ gr5 cf. *sàyya* ‘buy’, *kaŕàntaa* ‘read, study’) is not compatible with the event being disorderly or unpredictable.

### 3.7.6. Conclusion

The most basic condition on the felicitous use of pluractional verbs is that they can only refer to plural events. In addition, there are also other conditions. These can be roughly described as conditions stating that the pluractional can only be used if the event is more than just plural. Most often, this means that the event units in the plural event should be relatively many. High individuation is another common ‘addition’ to simple plurality. Special plurality can also take the form of intensified interpretations with some verbs. Apart from the parallel with the nominal special plurals, one of the main arguments for the claim that all these instantiate special plurality is the existence of compensation effects. Some speakers display other conditions on the appropriate use of pluractionals as well, at least some of which are in my view also related to the special plural status of the pluractional form. The high level of variation with respect to what exactly the additional meaning effects or conditions on use are and their interchangeability reflect the fact that the third meaning component is much less fixed and well-defined than the other two.

Below is a possible way to formulate the specific conditions that follow from special plurality and which, together, form the third and most peripheral meaning component of pluractionality in Hausa:<sup>96</sup>

- (90) **Pluractionals are used to express special plurality**
- a. Pluractionals can be used if the event units are many
  - b. Pluractionals can be used if the event units are highly individuated
  - c. Pluractionals can be used if the event units (or the whole event) are intensified

Before I conclude this section, I would like to make a final point. In my view, the analysis of the special effects of pluractionals as following from a more or less separate component, an addition to the core plurality meaning, provides a better understanding of certain similarities and differences both across languages and across domains. For example, comparing Hausa pluractionals to those found in Karitiana, where pluractionals seem to express simple plurality (cf. section 3.7.1.), the main difference can be described by saying that Karitiana pluractionals lack the special plural component. In comparison to verbal distributives of the type that are found in Papago, on the other hand (cf. section 1.8.4.), the analysis proposed here suggests that Papago makes very precise in what sense these verbal forms are special plurals: they are distributive plurals.<sup>97</sup> Hausa, by contrast, does not specify how exactly the special character of its pluractionals is to be expressed. The type of approach proposed here captures the relation to simple plurality in a very straightforward way, and preserves the connection between the different

<sup>96</sup> Most likely, the exact number and form of these conditions would differ from speaker to speaker. The list given here is intended to represent the most typical judgments.

<sup>97</sup> Papago not only specifies that it is the high individuation condition that constitutes their addition to simple plurality. The exact way in which the event units are individuated is also determined: the different event units are individuated by being associated with different locations (see 1.8.4.).

‘flavors’ of special plurality while allowing for the possibility that some languages fix one (or more) of them as obligatory. Moreover, the approach defended in this thesis also makes it easier to see how pluractionality in Hausa relates to different kinds of nominal plurals. In particular, it is very clear that the similarities between Hausa pluractionals and English nominal plurals are limited: the only meaning component they share is the simple plurality component.<sup>98</sup> However, if Hausa pluractionals are compared to ‘big plurals’ in Arabic, it is clear that the similarities go much further, as Arabic ‘big plurals’ are special plurals of a very similar type. In addition, if special plurality is a common consequence of forming an opposition with number-neutral rather than singular forms, it is also clear why special plurals seem to be so much more common in the verbal domain given that non-pluractional verbs are typically number-neutral.

### 3.8. Inter-speaker variation

As already mentioned at various points, there is a lot of variation in judgments among speakers. In fact, if I had to limit myself only to what all speakers agree on, everything interesting about Hausa pluractionals would have to be discarded. On the analysis I have proposed in this thesis, however, the variation can not only be accounted for, but it is in fact predicted to exist. In addition, it is also partly possible to predict what patterns can be found in the individual speakers’ idiolects.

The individual sources of variation will be discussed in subsection 3.8.1. Subsection 3.8.2. will present the idiolects of four speakers.

#### 3.8.1. Sources of variation

In my view, the variation in judgments found among speakers has basically three sources: (a) the fact that the choice of the anchors is constrained only by the non-equivalence condition (Component 2 in Figure 3.4.), which allows speakers a lot of freedom in how they individuate the event units, (b) the fact that it is not completely fixed how the special character of pluractionals should be manifested and how strong the effects are (cf. Component 3 in Figure 3.4.), and (c) the fact that pluractionals are not used very frequently. In other words, the variation is a consequence of the fact that certain aspects of the meaning of pluractionals are left unspecified or not fully defined, and that pluractionals are generally special forms.

Recall that the way in which the individual event units are distinguished from each other is not encoded in the meaning of the pluractional marker itself but rather follows from general principles of event individuation, restricted only by the non-equivalence condition. The fact that speakers have so much freedom in the choice of the anchors

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<sup>98</sup> In fact, the denotation of English nominal plurals, unlike that of Hausa pluractionals, might be better analyzed as including atoms; cf. footnote 5 in section 3.2.

leaves a lot of space for variation. Appropriate anchors are anchors that make the individual event units sufficiently different from each other. Apart from that, what individuates the event units is virtually only constrained by the lexical meaning of the verb and what is possible in the real world. As a consequence, the role of the speaker's imagination and inventiveness is rather important. Some speakers are better than others at creating contexts that make sentences with pluractionals felicitous. While some speakers reject a sentence because there is no obvious plurality present, other speakers are able to supply a context that will make the sentence felicitous, simply by conceptualizing a plurality of sorts. This is typical for cases with singular arguments. Consider the following example:

- (91) %Yaa bub-bùudě jàkaa  
 3SG.M.PF RED-open bag  
 'He opened the various compartments/ pockets of the bag'

The speakers that accept the sentence with the singular *jàkaa* 'bag' are able to interpret the sentence as involving a plurality of compartments or pockets of the bag and distribute the plural event units to those.

The ability to supply a context involving plural anchors is, however, not always sufficient. Some speakers simply have a strong preference for the anchors to be referred to by overt expressions. This means that some speakers reject certain sentences even if it is clear what the plural anchor should be in the given case. Once the anchor is expressed overtly, the pluractional form becomes felicitous (92b).<sup>99</sup>

- (92) a. %??Naa tut-tùnaa  
 1SG.PF RED-remember  
 'I remembered them (different things)'  
 b. Naa tut-tùnaa dà suu  
 1SG.PF RED-remember with them  
 'I remembered them (different things)'

In addition to the differences in the ability and willingness to rely on non-overt anchors, some speakers reject certain possibilities for no obvious reason. It might be that some speakers prefer to interpret the plurality in the subject, rather than in the object argument, while most other speakers can do both, for example. Alternatively, a specific lexical choice might be dispreferred by a given speaker. In other words, there is a certain percentage of cases where it seems to be just a matter of personal preferences what type of anchor is acceptable or preferred.

Apart from the relative freedom that speakers have in the choice of anchors, a substantial part of the variation follows from the fact that the exact way in which special plurality is

<sup>99</sup> Recall that it is very common in Hausa not to express the verb's arguments overtly (cf. section 2.2.2.). Most speakers thus find sentences like (92a) completely well-formed, just like their non-pluractional counterparts.

manifested can be different for every speaker. The extent to which pluractionals are special can also vary.

The different preferences for the individual ‘flavors’ of special plurality can be observed, for example, in the fact that some speakers frequently interpret pluractionals as referring to ‘intensified’ events, while others almost never do. These other speakers might instead have a strong preference for high individuation. Also, for a small number of speakers, the use of the pluractional can imply that the action was performed disorderly. This may be the reason why such a speaker would find the following sentence (slightly) degraded, while others find it perfectly acceptable:

- (93) %?Naa    dāf-dōraa    su    a kân    teebũr  
          1SG.PF    RED-put    them    on top.of    table  
          ‘I put them on the table’  
          N.B. implied: in a disorderly fashion

If the use of the pluractional implies a disorderly performed action, it probably explains why the first person subject makes the sentence sound odd. The speaker himself commented on the sentence saying that one would not refer to one’s own actions in this way.

The varying degree to which pluractionals are special is undoubtedly another source of variation. For example, some speakers require that the individual event units be highly differentiated. This means that pluractionals are indeed very special forms for these speakers. For others, however, the pluractional form has lost most of its special (distributive) status and may be getting close to a simple plural. This can be illustrated by the different interpretations that (94a-b) can get:

- (94) a. Yaa        sàs-sàyi    littàttàfai  
          3SG.M.PF RED-buy    books  
          i. ‘He bought (many) different books’  
          ii. ‘He bought (many) books’  
       b. Taa        dad-dàfà    àbinci  
          3SG.F.PF RED-cook food  
          i. ‘She cooked different kinds of food’  
          ii. ‘She cooked food repeatedly’<sup>100</sup>

While many speakers require the books or meals in (94) to be of different kinds for the pluractional form to be felicitous, some speakers only require them to be plural. The shift from special, especially distributive, plurality, to simple plurality is not uncommon

<sup>100</sup> Note that despite the translation, the interpretation is not iterative: one cannot re-cook a meal. Note, however, that on this interpretation it could be the same kind of food (even the same dish) every time.

and variation along these lines is rather typical.<sup>101</sup> A related point of variation is the ease with which speakers can drop these special meanings. Most speakers might have a preference for pluractionals to refer to ‘many and varied’ events, but some give up this requirement rather easily while others consistently reject contexts that do not support the stronger type of interpretation.

The following more complex example can probably be understood as illustrating a similar point:

- (95) Yaa            shàs-shàari    ðaakii  
        3SG.M.PF RED-sweep    room  
        ‘He swept the room’  
           i. %superficially  
           ii. %thoroughly

The two interpretations given above seem contradictory. The difference between the two interpretations is that one involves (what looks like) non-exhaustivity while the other interpretation seems to be exhaustive. I argued in section 3.5.4.2. that the non-exhaustive interpretation arises as a consequence of the tendency to make the participants clearly individuated. If the participants are parts of a single object, leaving ‘gaps’ between the parts makes their plurality more obvious. That in turn leads to the ‘superficial action’ interpretation. It is possible that for those speakers who report the ‘thorough action’ interpretation it is sufficient if the parts are plural by virtue of them being non-overlapping. In other words, the ‘high individuation’ requirement of these speakers is not very strong. If all parts of a room are swept, it suggests that the sweeping was very thorough. Alternatively, the choice between the two possible interpretations might be a matter of choosing one of the several competing ‘flavors’ of special plurality. For the speakers who accept the sentence on the interpretation in (i) the ‘high individuation’ meaning is more prominent, while for the speakers who have preference for the interpretation in (ii), the ‘intensification’ effect appears to be stronger.

Another important source of variation is the fact that pluractionals are rather unusual, infrequently used, forms. Since pluractional forms are not used very frequently, speakers are sometimes less sure about their usage. In particular, speakers sometimes express uncertainty as to whether a certain form exists or not. The awareness of what is common and what is not can be gleaned from comments like ‘people do/ do not say that’, ‘I’ve heard that many times’, ‘I’ve never heard that’ etc. Some speakers actually refuse many forms altogether regardless of the context: they consider them simply non-existent. The

<sup>101</sup> The shift from distributive to simple plurality has often been reported in the literature (presumably usually for nominal distributives), e.g. for Indonesian (Rafferty 2002, referring to Gonda 1949) and for various North-American languages (Mithun 1999:91 and the references therein). I am not suggesting that Hausa pluractionals are undergoing a change from special to regular plurality. Nevertheless, I do think that there is a continuum of speakers with some interpreting pluractionals as plurals that are truly special at one extreme and others treating them as almost regular plurals at the other extreme.

variation can thus be seen as a reflection of whether the given speaker accepts ‘possible’ forms, or only ‘actual’ words (cf. Aronoff 1983, Bauer 2001, Haspelmath 2002).<sup>102</sup>

Finally, recall that some speakers tend to reject certain pluractional forms for stylistic reasons, as being too informal or expressive, or because they are not considered ‘proper Hausa’.<sup>103</sup> Sometimes, the speaker offers a different way of expressing the same meaning, which is considered more formal or ‘correct’. For example, one speaker rejects (96a) with the explanation that (96b) is a better way to express the given meaning:<sup>104</sup>

- (96) a. ??Yaa     tât-tâmbâyee     ni  
               3SG.M.PF RED-ask        me  
               ‘He asked me many questions’
- b. Yaa        yi     mini     tambayoyii  
               3SG.M.PF do me     questions  
               ‘He asked me (many) questions’

To summarize, pluractional forms may be rejected for many different reasons. The examples of cases where speakers may vary in their judgments given above by no means exhaust the possibilities. Hopefully, however, they sufficiently illustrate the main point, namely, that variation can not only be dealt with on my analysis, but that it is in fact expected. With the exception of the last two cases, where the sources of variation are not specific to Hausa pluractionals, the individual points of variation follow from the analysis. The exact way in which the event units of a plural event are individuated depends to a large extent on the context and the inventiveness of the speaker. How exactly the special plural nature of Hausa pluractionals is manifested and how strong the effects are varies as well. Moreover, pluractionals do not abound in everyday speech. It is thus only natural that speakers’ judgments are not entirely uniform and fixed.

In the next subsection, I will provide additional support for the way variation is dealt with in this thesis by presenting the idiolects of four different speakers and by showing that certain features of the idiolects that can seem random when considered in isolation are not random at all when each idiolect is considered as a whole. I conclude the section by offering several generalizations about the way speakers’ idiolects vary.

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<sup>102</sup> The fact that it matters for many speakers whether a given form is commonly used/ established or not, and that they may refuse those forms that are not common as ‘impossible’ provides support for the idea that not only lexicalized/ idiosyncratic forms are ‘stored’ but also some of the regularly formed ones (cf. Bauer 2001, Haspelmath 2002).

<sup>103</sup> The most frequent forms tend to lack the informal or expressive flavor, however.

<sup>104</sup> It is also possible to use a frequentative:

- (i) Yaa            yi     tâmbâye-tâmbâye  
       3SG.M.PF    do    question.FREQ  
       ‘He asked me many (different) questions’

### 3.8.2. Examples of idiolects

In the following demonstration of how speakers' idiolects might vary I will focus on several properties, in particular:

- a. productivity and idiosyncrasies of use
- b. presence of iterative readings
- c. necessity of high individuation of the event units
- d. necessity of large number of the event units
- e. possibility to specify the number of the event units
- f. presence of high degree readings
- g. distribution to parts – exhaustive/ non-exhaustive

The properties in (a-g) are not expected to be entirely independent of each other. Rather, my proposal predicts the existence of the following connections between the individual properties:

- (i) If iterative interpretations are acceptable, high individuation should not be required. This is because the high individuation requirement can be understood as a stronger version of the non-equivalence condition which rules out iteration as a possible interpretation of pluractionals.
- (ii) If high individuation is required, distribution to parts, if possible at all, should lead to a non-exhaustive ('superficial action') interpretation.
- (iii) If a given speaker forms pluractionals very easily, they are less likely to give rise to strong special effects (high individuation, large number, intensification). This is because unrestricted usage of pluractionals can be taken to signal that the pluractional form is becoming a simple plural for the given speaker, and does not require a special context anymore.

After discussing the selected idiolects I will comment on how the predictions above are borne out.

*Speaker 1:*

This speaker's formation of pluractional forms is moderately productive. Pluractional forms are clearly marked forms for him. In some respects, this speaker's idiolect is somewhat unusual: the use of pluractionals has some specific properties that are not found with most other speakers (see below). Iterative readings are completely excluded, which means that the non-equivalence condition cannot be violated. The preference for high individuation is very strong. The speaker does not allow for precise specification of the number of the event units, and the number of the event units should clearly also be large. None of these special effects can be dropped very easily. This speaker does assign a high degree interpretation to some forms. Distribution to parts does not seem to be very easy and if accepted the superficiality effect is often invoked. As for the less usual properties in this speaker's idiolect, the use of pluractionals seems to imply a certain

degree of unpredictability and unusualness of the events. This is probably why this speaker disprefers combinations of certain TAMs and pluractionals. For example, habitual, future or subjunctive TAMs do not very easily combine with pluractionals for this speaker. The ban is not absolute, however. This supports the idea that it is not a grammatical constraint.

*Speaker 2:*

The idiolect of Speaker 2 is similar to that of Speaker 1, the difference being that Speaker 2 uses pluractionals to describe more ordinary situations and does not require the context to be as special as Speaker 1 does (there are no restrictions on the compatibility with different TAMs, for instance). The idiolect of Speaker 2 is more representative of Hausa pluractionals in general. Otherwise, the basic properties are very similar: the productivity of the formation is moderate. Iterative readings are not accepted but the resistance is slightly less severe than in the case of Speaker 1. This can be seen from the fact that some of the forms, although degraded, are understood as referring to iterated actions. For this speaker, the individual event units in a plural event should be highly individuated if possible. Speaker 2's judgments are also typical in the sense that the number of events should not be specified, but they should be many. There are some, although only few, intensification cases in his data. Distribution to parts is much easier than for Speaker 1. There are no tentative cases in this speaker's data.

*Speaker 3:*

This speaker has very few restrictions on the formation and use of pluractionals. Pluractionals are less special than in the case of both Speaker 1 and 2, or than is typical, in fact. A few cases of iterative readings can be found in his data, suggesting that the non-equivalence condition can sometimes be suspended. This speaker exhibits the following special effects: a preference for the number of event units to be large but unspecified (or only vaguely specified), and the existence of a few high degree readings. Nevertheless, high individuation is not required. Even the other special effects can be dropped rather easily: the speaker accepts sentences describing situations in which the number of events is as low as two, and high degree interpretations can be cancelled easily. Distribution to parts is easy, and the effect is neither clear exhaustivity nor superficiality: it is simple distribution to different parts.

*Speaker 4:*

This speaker is the most liberal one of those that I interviewed. As such, he stands at the opposite end of the spectrum in comparison to Speaker 1. He forms pluractionals very regularly and there are very few restrictions on their appropriate use in his idiolect. Even iterative interpretations are accepted quite easily. Even for this speaker, however, they are not the first interpretations offered. The availability of iterative interpretations signals that the non-equivalence condition is weak to the extent that it can be dropped completely. High individuation of the event units is not required. The speaker does

exhibit other special effects, however. Specifically, the use of pluractionals generally implies some kind of emphasis or ‘intensification’, despite the fact that genuine high degree cases are non-existent in his idiolect.<sup>105</sup> Also, precise specification of the number of event units is dispreferred. If it is not explicitly stated, the number of event units can be low, however. Distribution to parts is easy and the interpretation is exhaustive (no superficial action readings).

From this very brief excursion into the idiolects of some of the speakers, several conclusions can be drawn. First of all, the first prediction is very clearly borne out: there is a clear correlation between the high individuation requirement and the lack of iterative readings (most clearly in Speaker 1’s idiolect). If iterative readings are possible, the speaker does not have the high individuation requirement or it can be dropped easily.<sup>106</sup> The second prediction seems to be confirmed as well: it appears that only those speakers who do not insist on high individuation can distribute to parts exhaustively. However, more data is needed to confirm this preliminary conclusion. Finally, the last prediction seems to be borne out as well. If a speaker forms pluractionals very easily, they tend not to have many special meanings, or they are cancellable. This seems to indicate that the speaker’s pluractionals might have partly lost the special plural status. Roughly, the more productive the formation of pluractionals is, the more likely it is that the requirement for large number and high individuation can be dropped, and that the high degree interpretation can be cancelled.

Finally, the overview of the idiolects given above provides support for the idea that some components of the pluractional meaning are more stable than others. Even though some speakers insist on the special plural effects (Component 3 in Figure 3.4.), this is where the speakers’ requirements can be relaxed most easily. Compared to that, the non-equivalence condition (Component 2) is harder to drop. Nevertheless, this still does happen sometimes, while the plurality condition (Component 1) is virtually never violated. The low degree of fixedness of some parts of the meaning of pluractionals is reflected also in the fact that speakers are often not consistent in their judgments. It is common that speakers require high individuation and do not accept iterative readings at first, only to become more liberal later on. This is most clearly the case for Speaker 4. Apart from illustrating the relative strength or fixedness of the individual meaning

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<sup>105</sup> By ‘genuine degree cases’ I mean cases of pluractionals derived from gradable verbs where the degree of the property is higher.

<sup>106</sup> This shows that there is a connection between the non-equivalence condition and the high individuation requirement. However, the non-equivalence condition is more or less independent, which can be seen from the fact that for the absolute majority of speakers, iterative interpretations are excluded (even if high individuation is not necessary for them). In addition, the high individuation requirement is reported also for cases in which the non-equivalence condition does not apply: the repetitive case (cf. example (73)). Thus, what the correlation discussed above shows is that the non-equivalence condition and the high individuation requirement simply go in the same direction and if the weaker ‘distributive’ condition (the non-equivalence condition) is missing, it is only natural that the stronger one (the ‘high individuation’ condition) is as well.

components, this observation is also important in the sense that it clearly speaks for a very careful approach when working with speakers' judgments.

Although the selection of the points in which speakers judgments vary presented here is necessarily limited, the discussion of inter-speaker variation can be concluded by observing that the differences found in the different speakers' data are not quite random. In fact, each idiolect forms a coherent system, in which many of the properties are not independent of each other and can be at least partly predicted. The important conclusion here is that the extensive variation within the data, an aspect that can in principle be very problematic, turns out to be an important argument for the type of approach I chose in this dissertation. On a more general level, one of the contributions of the present thesis is that it shows that variation is not necessarily a problem but rather that it can provide an important insight into the phenomenon under scrutiny. Also, variation is not understood here as a consequence of the existence of several parallel grammars (e.g. different dialects). Rather, it follows, at least to some extent, from the nature of the phenomenon itself, that is from the fact that certain parts of the meaning are not fully specified and completely fixed. This means that variation is in fact one of the basic properties of pluractionality in Hausa.

### 3.9. Comparison with other theories

In the previous sections I presented my analysis of the meaning of pluractional verbs in Hausa. In this section I compare some aspects of my approach to other proposals, especially Lasersohn (1995), but also Ojeda (1998) and Henderson (2010). The issues that will be the focus of the comparisons below are the following: (a) the individuation of the event units, (b) the separateness/ diversification of the event units, (c) the cardinality of the event units, (d) the relation between simple and special plurality, and (e) the relation to nominal number.

Let me start with the issue of how the event units in a plural event are individuated. On my approach, if the event units are not individuated as a result of natural atomicity, individuation is achieved by what I call anchoring: the event units are individuated with the help of the elements that constitute them, e.g. their participants. In Lasersohn (1995), the event units are individuated by mapping the events to their (non-overlapping) participants, locations or times. The relevant part of Lasersohn's formula is underlined, with the possible values of  $f$  given below:

$$(97) \quad V\text{-PA}(X) \Leftrightarrow \forall e, e' \in X [P(e) \ \& \ \underline{\neg f(e) \circ f(e')} \ \& \ \exists x [\text{between}(x, f(e), f(e')) \ \& \ \neg \exists e'' [P(e'') \ \& \ x = f(e'')]] \ \& \ \text{card}(X) \geq n]$$

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)

In a sense, Lasersohn's approach and mine are very similar: the events are mapped to the elements that constitute them, and in this way they are individuated. There is a difference, however. On Lasersohn's approach, the participant-based, temporal and spatial readings are three clearly defined and distinct readings that the pluractional can give rise to. I have argued, however, that there is not enough evidence for making a distinction between participant-based and spatial readings in Hausa, and that there are other possibilities of anchoring that are harder to categorize. Moreover, the case of temporal readings is clearly more complicated in Hausa: some, but not all, types of interpretation involving repetition have to be excluded. It is not obvious how that could be done on Lasersohn's approach.

The issue just discussed is tightly connected to the next one, namely how the stronger effect of separateness and/or diversification of the event units (the distributive effect) is achieved. Lasersohn accounts for the separateness effect by making the following clause part of his formula (cf. (97)):

$$(98) \quad \exists x[\text{between}(x, f(e), f(e')) \ \& \ \neg \exists e''[P(e'') \ \& \ x = f(e'')]]$$

This clause ensures that there is a gap between any two event units (i.e. any two participants, times, or locations). Note, however, that this really captures only the idea of separation of the event units rather than accounting for the more general requirement that the event units be highly individuated. It is hard to see how (98) explains the 'different kinds' effect, for example, or the idea of diversification in general. In view of this, Ojeda's (1998) approach seems more appropriate, as it is more general.

Ojeda analyzes the semantics of distributive nouns and verbs in Papago:

- (99) a.  $d\acute{a}d\acute{d}aiku\acute{d}$  [Papago]<sup>107</sup>  
           'several chairs from several households'
- b.  $c\acute{ick}pan$   
           'to work (more than once) at more than one location'

In Papago, distributives are used if the individual or event atoms belong to different 'loci' (Mathiot 1983). In the case of nouns this could mean belonging to different households (for artifacts/ objects) or herds (for animals). In the case of verbs, the event atoms should be distributed over different locations. To capture the idea of the individual atoms belonging to different 'loci', Ojeda uses the notion of (non-)equivalence: in his account, distributive plurals denote sums of non-equivalent atoms. By contrast, non-

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<sup>107</sup> Ojeda (1998:249, 251).

distributive plurals are sums of equivalent atoms. He points out that what counts as different loci is culture-dependent. As a result, what counts as equivalent and what does not, is not a matter of semantics proper.

My approach is very similar to and in fact inspired by Ojeda's. There are some differences, however, which follow from the differences between Papago distributives and Hausa pluractionals. First of all, in my proposal, the non-equivalence condition is a condition restricting the choice of anchors that serve the purpose of individuating the individual event units. Whether or not the non-equivalence condition applies depends on the lexical properties of the predicate: pluractionals derived from naturally atomic verbs can refer to plural events consisting of equivalent event units. In other words, the non-equivalence condition does not play a role for all pluractionals in Hausa, while by definition all Papago distributives are sums of non-equivalent events.<sup>108</sup> Second, unlike in Papago, the distributive effects in Hausa can be attributed to two separate conditions: the non-equivalence condition and the high individuation requirement. This split is motivated by the fact that only a subset of the 'distributive' effects are obligatory and more or less uniform across speakers in Hausa, i.e. those triggered by the non-equivalence condition.

Ojeda's proposal is also very interesting with respect to the discussion of simple and special plurality in this thesis. Recall that Ojeda relates simple and distributive plurality by saying that simple plurals are based on the notion of identity, while distributive plurals are based on the notion of equivalence. Identity is a special case of equivalence, its strictest form in fact (cf. section 1.8.4.).<sup>109</sup> The way simple and special plurals are related in this thesis is less elegant than that of Ojeda's: under my account, special plurals are plurals that have an aspect of meaning in addition to simple plurality. However, this move is necessary since Hausa pluractionals are special plurals in a more general sense than Papago distributive verbs are. Distributive plurals are just a specific subtype of special plurals. As a result, Ojeda's specification of the relation between distributive plurals and regular/ simple plurals is too narrow to fit Hausa as well.

Another aspect of the meaning of pluractionals in many languages is the idea that the number of the event units in the plural event should be relatively large. I proposed that the nature of Hausa pluractionals as 'special' plurals accounts for the fact that they do not refer to events that are simply plural, but rather multiple. The 'large number of events' interpretation is therefore not part of their core meaning. In fact, it is not even a component of meaning that is completely fixed and obligatory. For Lasersohn (1995), by contrast, this condition is part of the meaning of pluractionality that is on the same level

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<sup>108</sup> Not all types of verbal forms that could be called pluractional in Papago could be analyzed as sums of non-equivalent events, however. Apart from distributive plurals, there are also forms whose meaning is simple repetition (in the same location). Cf. the discussion in section 1.8.4.

<sup>109</sup> This also explains the ease with which (nominal) distributive plurals in many languages shift to regular plurals; cf. footnote 101 in section 3.8.1.

as all the other meaning components. It is defined in terms of the cardinality of the set of events (the value of  $n$  is fixed by context):

$$(100) \text{ V-PA } (X) \Leftrightarrow \forall e, e' \in X [P(e) \ \& \ \neg f(e) \circ f(e') \ \& \ \exists x [\text{between}(x, f(e), f(e')) \ \& \ \neg \exists e'' [P(e'') \ \& \ x = f(e'')]]] \ \& \ \text{card}(X) \geq n$$

An alternative approach, closer in spirit to mine, was developed in Součková & Buba (2008) and Henderson (2010). In both papers, the intuition is that the ‘large number’ effect might in fact be a degree effect, very similar to the meaning effect of a degree expression such as *a lot* (cf. section 1.4.1.). In Součková & Buba (2008), the idea was that the semantics of the pluractional marker has a degree component. More precisely, there is a degree function, which, when applied to the verbal denotation, can access the ordering based on the size of the sums of events and pick the larger ones. In Henderson (2010), the semantics of the pluractional contains a conjunct very similar to Lasersohn’s cardinality conjunct, with the difference that it specifies the size of the group of events in terms of degree on the scale of cardinality, rather than number.

The type of approach found in Součková & Buba (2008) and Henderson (2010) is to be preferred over Lasersohn’s, in my view, because it captures better the degree-like feel of many pluractionals. Speakers often describe events referred to by pluractionals as ‘intensified’. This ‘intensification’ can be interpreted either as ‘large number’ or as ‘high degree’ (cf. also the compensation effects described in section 3.7.4.). Furthermore, the degree approach is better suited to capture the vagueness and context-dependence of the number value, since this is something very typical for degree expressions (cf. also Henderson 2010).

Finally, one general aspect in which theories of pluractionality can be compared is how they relate pluractionality to nominal number. My analysis of Hausa puts pluractionals closer to nominal plurals than Lasersohn’s (1995) account, which specifies how the event units are individuated in the semantics of the pluractional itself (the values of the  $f$  function). On my account, the differences between verbal and nominal plurals follow largely from the differences between events and objects and are not encoded in the meaning of the pluractional itself, since I assume the existence of independent principles of event individuation. Ojeda’s (1998) proposal goes even further in establishing a parallel between the nominal and verbal domains: the distributive forms of nouns and verbs in fact receive a uniform analysis under his analysis. This is enabled by the fact that the nominal and verbal number systems are parallel to such an extent in Papago.

This concludes the discussion of the individual aspects in which my approach diverges from other approaches. Summing up, I have claimed that the meaning of pluractional verbs should be modeled as consisting of several components whose contribution is not on the same level. This idea makes the present proposal quite different from other proposals dealing with similar data. My approach is motivated by the specific properties of the Hausa data, and in particular the observation that some aspects of the meaning of

pluractionals are less stable and more elusive than others, giving rise, among other things, to a large amount of variation in judgments.

### 3.10. Conclusion

The goal of the present thesis was to propose a semantic analysis of pluractionality in Hausa. To prepare the ground, I started, in Chapter 1, with a rather broad discussion of what should be included in the notion of pluractionality and what other notions are relevant in the study of the phenomenon. The first question that comes to mind is how pluractionality relates to nominal number. I suggested that there are striking similarities between the two domains, if the attention is restricted to phenomena that are truly comparable at least. Nevertheless, I argued that it makes sense to study pluractionality more or less separately from nominal number because some issues are specific to the verbal domain, in particular, the relation to aspect and the fact that events are typically individuated with the help of other entities. Special attention was devoted to delineating boundaries between pluractionality and aspect but also between pluractionality and degree phenomena, as these boundaries are not always clear. Other relevant issues were discussed there, namely the use of the terms ‘distributive’ and ‘collective’, and the usefulness of making certain distinctions within pluractionality, specifically, the distinction between event number and participant number and the distinction between event-external and event-internal plurality. The general discussion of pluractionality was concluded by presenting four theoretical accounts of pluractionality.

In Chapter 2, the focus turned to Hausa. After giving some basic information on Hausa and its grammatical system, most of the chapter was devoted to the presentation of the Hausa pluractional data. The main generalization is that Hausa pluractionals refer to plural events. The events are not simply plural, however. Instead, the event units are typically many and clearly individuated. Simple iterative interpretations are not possible, with the exception of cases that I called repetitive, which are basically pluractional semelfactives. In addition, pluractionals can sometimes have conative and tentative interpretations and in some cases the event plurality interpretation is accompanied by intensification.

In Chapter 3, I proposed an analysis of Hausa pluractionals that accounts for all the different interpretations described in Chapter 2. The proposal departs from other proposals dealing with pluractionality in dividing the labor of accounting for the individual meaning effects between several semi-independent components. This is intended to capture the fact that the different aspects of pluractionality in Hausa do not have the same status: they are not equally stable and necessary for the felicitous use of the pluractional form. The fact that some parts of the meaning of the pluractional are less fixed than others is also one of the main sources of the considerable variation in speakers’ judgments. The components co-determining the interpretations of

pluractionals were argued to be the following. The first and most stable component, which represents the core of the meaning of pluractionality, is (event) plurality: pluractionals denote sums of events. This is presumably also the meaning component that is shared by all (proper) plurals, nominal and verbal alike, abstracting away from the nature of the atoms forming the plurality. The second component is essentially a single condition constraining the process of event individuation through anchors, a process that is itself governed by independent principles that are not restricted to pluractionality. The constraint is called the non-equivalence condition. It is a conventionalized condition that is responsible for ruling out simple iterative interpretations. Iterative interpretations obtain when the individual event units only differ from each other in when they took place. The non-equivalence condition requires that the event units are interpreted as truly different from each other, which is a requirement that is not satisfied by event units that only differ in their temporal location. In contrast to the core meaning component, i.e. event plurality, the non-equivalence condition represents a slightly less fixed part of the meaning of pluractionality in Hausa: it can be marginally violated. The last meaning component, which is the outer layer of the pluractional semantics, so to speak, are additional conditions on the use of the pluractional form. This is, for instance, the requirement that the event units be many and/or diversified, rather than simply plural. These conditions follow from the fact that Hausa pluractionals are special plurals: they express meanings that go beyond simple plurality. The special meaning effects that these conditions give rise to represent a component of the meaning of Hausa pluractionals that is much more elusive than both the core meaning and the non-equivalence condition. This can be seen from the fact that they are often cancellable or replaceable by other special effects. These three meaning components together can explain essentially all properties of Hausa pluractionals, including the variation.<sup>110</sup>

Despite the fact that the analysis proposed in this thesis is intended to explain the specific properties of Hausa pluractionals and not pluractionality in general, the fact that it consists of three partly independent components makes it potentially applicable to different types of data. It is a project for future research to see how useful the tools developed in this thesis are for the study of pluractionality across languages.

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<sup>110</sup> I leave it for future research to specify at which point in the derivation the pluractional morpheme applies to the verb and how exactly the verb combines with its semantic arguments. How these questions are answered will have consequences also for the question of how exactly the plurality requirement is checked.

