Nominal and Verbal Plurality in Sumerian: A Morphosemantic Approach
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1. Introduction

1.1. Two basic principles

As a starting point, let us consider two – seemingly very obvious – axioms: 1) Sumerian was a language, and 2) the native speakers of Sumerian were human beings. These statements have serious consequences for the study of the Sumerian language.

From the first axiom it follows that Sumerian must be describable in terms that we use to describe other languages, and must obey the universal rules of human languages. These rules, and description techniques are set in linguistic typology by universals, implicational universals and typological classifications. If a description of a phenomenon in Sumerian contradicts the universals of languages, most probably the description is erroneous. For example, an implicationla universal states the if a language has plural it must have singular, too; therefore any description that assign plural, but no singular to a language, is suspicious at least.¹

The second axiom also has its consequences: since Sumerian was a language spoken by humans, every principle of cognition that affect human languages must be applicable to Sumerian too. The discipline studying human languages as cognitive systems is cognitive linguistics.² I assume that the advances of cognitive linguistics must be valid in Sumerian. For instance cognitive metaphor – and metonymy – is a universal working force behind languages; therefore I expect to be graspable in Sumerian, and it is indeed, as we will see in Chapter 4, and 6.

Based on these two axioms I will set the typological and cognitive basis for both nominal and verbal plurality, and study the number system of Sumerian on this foundation.

Sumerian semantics and morphosemantics are very elusive issues. Many times we have to cope the fact that a given sentence may have two or more equally acceptable interpretations (and translations). Thus oftentimes it is the translator’s presuppositions and theories about Sumerian grammar that shapes the translation, and gives a feedback to later

¹ Any postulated universal may be inappropriate, of course; but if Sumerian seems to be the only counterexample, it is more probable that the description is wrong than the universal itself.
grammatical and semantic analysis. The presuppositions may be implicit with no semantic or grammatical explanation provided. In this study, one of my goals is to explicate grammatical theory behind the analyses as much as it’s possible. It is very important to see why we choose or dismiss an interpretation and favour another one, since this cannot be done without linguistic and philological argumentation. Additionally, many times it is almost impossible to choose between significantly different interpretations of certain phenomena without external (e.g. statistical) arguments; and the most important source of these arguments is linguistics. Linguistics can be a powerful tool in clarifying ambiguous clauses and sentences following this basic rule: if we have two equally probable and acceptable interpretations, we choose the one that fits cross-linguistic tendencies better. Because of the semantic focus of the study, orthographic issues are touched only briefly where it is necessary. Sumerological literature provides detailed descriptions of the orthography of the grammatical elements investigated in this work, which are not repeated here; I direct the reader to the relevant literature in each chapter.

1.2. The corpora

In this study, not all available Sumerian texts are used. Since the main of goal of the work is to describe the third millennium Sumerian, most data and examples come from this period. In the investigation of certain aspects of plurality, however, this cannot be carried out, since the third millennium material does not provide enough attestations to draw conclusions. In these cases, second millennium material, primarily from the corpus of literary texts (ETCSL) is used. Later sources are avoided as much as possible, since the Sumerian used from the second half of the second millennium B.C. differs from third millennium’s (supposedly) spoken Sumerian very much.

There are a number of quantitative analyses in the dissertation. For this purpose, closed, and edited corpora are used to limit the number of texts, and give a precisely verifiable frame for numerical analysis. It was also my goal to include different registers in order to discover possible stylistic variations. The following corpora are used in all numerical investigations:

- The Electronic Text Corpus of Sumerian Royal Inscriptions (ETCSRI)
- The Electronic Text Corpus of Sumerian Literature (ETCSL)
- electronic version of the Pennsylvania Sumerian Dictionary (ePSD)
- The di-til-la documents (NSGU)
I am convinced that the advent of digital corpora will have a very strong impact on Sumerology. New types of analysis becomes accomplishable as more and more digitalized and lemmatized texts are available. With electronic resources we can access numerical data from the whole known Sumerian corpus. This, in turn makes quantitative analysis possible in the fields of the Sumerian lexicon, morphology, and diachronic linguistics. This is a relevant step in Sumerian linguistics towards more precise descriptions and – a highly neglected area – explanations of different phenomena in Sumerian. In the following study I attempt to provide such investigations using frequency distributions across registers and time. This, I hope, will induce further large-scale quantitative analyses into the Sumerian lexicon and grammar with the help of our new, powerful tools, electronic corpora.

1.3 Structure of the book
In the second chapter of the book I will outline the typological and cognitive basis of nominal plurality based mainly on Corbett 2000 and Acquaviva 2008, concentrating not only on inflectional number, but also non-inflectional ways of expressing the category (based mainly on Acquaviva 2008), and some surrounding values, like distributives and collectives.

In the third chapter I investigate the Sumerian nominal number system, showing that inflectional number (expressed by the enclitic ene) is questionable, and highly restricted in Sumerian. The chapter also covers the non-inflectional, i.e. derivational (reduplication) and lexical (e.g. didli) ways of expressing number and related categories. I will briefly touch the subject of the correspondence of nominal number and agreement, too.

In the fourth chapter I set up the typological and cognitive foundations of verbal plurality, based mainly on linguistic typology, relying heavily on Wood 2007, which is the most detailed and up to date typological analysis of this phenomenon. The chapter introduces the basic categories and values of pluractionality, together with the linguistic tools of diagnostics, and classification of the phenomenon.

In the fifth chapter I discuss verbal plurality in Sumerian, including stem alternation and full reduplication. I show how the different types of verbs differ in their pluractional meaning, and assign pluractional meanings to individual verbs. Since the grammatical
model accepted in this study\(^3\) considers traditional adjectives as stative verbs in Sumerian, this type of reduplication will also be discussed here.

In the sixth chapter I investigate a special set of nouns, namely those that are formed by a fully reduplicated verb. I show how these nouns come from, and provide support for different types of plural actionality in Sumerian, and thus give and explanation for their onomaisiological motivation.

The chapters on Sumerian begin with a brief overview of the relevant Sumerological literature of the given morphological phenomena. My views and critique are expounded in the subsequent sections, but the relevant sections are mentioned in the summary of the literature.

In the seventh chapter I summarize the results of the study.

There are several questions of plurality, however, that are not covered by this study. The biggest area is that of pronominal plurality. I believe that this category deserves a monography on its own, since there are many problems around it. Another category only briefly touched is the copula; a monography on this issue is in preparation by Gábor Zólyomi. I also omitted certain marginal phenomena: the 'old plural' –en,\(^4\) the 'collective' nam-, and triple forms among others.

The study involves four appendices. The first of these is the frequency distribution of the reduplicated form of most frequent lexems in ETCSL. The second is a short account on the difference between repetition and reduplication. The third one is a longer overview on verbal distributivity in linguistic typology. Finally the fourth appendix is a list of nouns with a reduplicated verb as a base, with philological comments.

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\(^3\) See Zólyomi 2005, and the chapters on grammatical analysis of ETCSRI. In the analysis of examples I use the four line format used in ETCSRI: transliteration; analysed form of the Sumerian clause; grammatical analysis; translation.

\(^4\) See Krecher 1965; Jagersma 2010: 322-323.
2. Number values, grammatical characteristics

In the following I will introduce the most important concepts of the typology of number as a grammatical category. Where it is neccessary, I will go into details, while most of the time I try to be as brief as possible. The introduction roughly follows Corbett 2000, but I concentrate on the phenomena which brings us closer to understand the Sumerian number system.

The main reason to clarify the basic notions of number values is the confusion of terms that can be seen in the literature of Sumerology. Most Sumerian grammar use different terms to describe number values in Sumerian without the proper definitons of these terms. It is important for the purpose of describing the Sumerian number system to differentiate among a) number values, and notions outside the number system (e.g. collective); b) the ’intension’, or conceptual content of different values.

There are some characteristics of number as a grammatical category to be noted.

- Number is usually a nominal value. Even if it appears on a verb (agreement) it basically refers to the quantity of entities designated by a noun.
- In its basic form (nominal number) is an inflectional category. It follows that we expect to appear only one number marker on a noun.
- Number may be expressed by at least three means: morphologically (affixation, reduplication, stem alternation etc.), syntactically (number words, 5 pronominal marking on a verb, agreement etc.), or lexically (cf. Acquaviva 2008).

2.1. Basic number values

2.1.1 General number

In some cases there is no reference to the number value of a noun, thus the interpretation of singular/plural is not determined by the word-form; in other words ; “it is non-committal as to number” (Corbett 2000: 10). This value is called general number by Corbett.6 He assumes that general number is outside the system of grammatical number. If a noun is

5 Not to be confused with numerals.
6 Others call it ’transnumeral’ or ’unit reference’, see Corbett 2000: 10.
marked with general number, it may refer to one or more than one entities. It is not rare that general number is restricted to a given part of the noun inventory, e.g. to non-animate (such is the case in Sumerian as we will see), or to certain semantic domains;\(^7\) other parts of the system may have full-fledged number marking.

It may be the case that the general and singular number are marked the same way,\(^8\) for example by the same affix (or by zero). In these cases, the presence or lack of specifying number depends on the next factors:
- being the topic (vs non-topic)
- first mention (vs subsequent mention)
- referential use (vs non-referential use)
- human (vs non-human)\(^9\)
- definite (vs non-definite)

where the first choices prefer the specification of number.

2.1.2 Paucal

“The paucal is used to refer a small number of distinct real world entities.” (Corbett 2000: 22.) It has no specific upper bound, so it cannot be told in a given language whether certain number of entities is still paucal or plural. The main rule is that plural must refer to more real world entities than the paucal.

The lower bound depends on the system: if the language has no dual, the smallest number of entities marked by paucal may be two. As is the case with general number, paucal also may be restricted to some classes of the noun inventory, e.g. to humans. It is rare to find a system with only singular-paucal-plural, usually dual is also part of the system.

In the use of the paucal the contrast with plural is more important than the absolute number of entities. In Oceanic languages the absolute number of the group of entities and the relative size of the set is also important.
- absolute number: low → paucal, no matter the contrast

\(^7\) Cf. Acquaviva 2008: 30.
\(^8\) Corbett also mentions that in certain languages in parts of the noun inventory general and plural are marked the same way.
\(^9\) Or more exactly higher on AH (vs lower on AH), cf. Corbett 2000: 15.
- absolute number: middle → the relative number matters. If the group is smaller than another set, the first one will be referred to by the paucal, the second one by the plural. If the second group is smaller, the arrangement is the reverse.
- absolute number: high → plural is used.

2.1.3 Plural

The most basic opposition of number system is singular – plural, i.e. the contrast between talking about one or more than one (or ’not-one’)\(^{10}\) entity. If a language has a nominal number system at all, we expect it to have at least singular and plural\(^{11}\) (cf. the number hierarchy (NH) below).

2.1.4 Greater plural

Greater plural „typically implies an excessive number, sometimes called ’plural of abundance’, or else all possible instances of the referent, sometimes called the ’global plural’.\(^{12}\)

Greater plural is used when there are innumerable tokens of the given entity, the speaker refers all the possible entities, or the number cannot be counted. In other languages it implies a very large number of entities. Again in other languages, „The plural would be for smaller but more significant groups, the remote [greater plural] for larger amorphous groups”.\(^{13}\)

The meaning of greater plurals may effect the meaning of the simple plurals, as in Arabic, where the presence of the greater plural changes the simple plural’s meaning to ’paucal plurality’.\(^{14}\)

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\(^{10}\) Cf. the note of Acquaviva (2008: 79) “plural does not mean ‘many’ but ‘not-one’, and its precise semantic value on a noun depends on how that noun defines ‘one’.”

\(^{11}\) In other words to call it a number system, it has to contain singular and plural.


\(^{13}\) Corbett 2000: 32.

\(^{14}\) ibid.
2.2. Non-number values

The first item here should be general number, but since I already mentioned it, I direct the reader to chapter 2.1.1.

2.2.1 Associatives

Associatives “denote a set comprised of the referent of the nominal (the main member) plus one or more associated members.” (Corbett 2000: 101.)

Corbett distinguishes three ways of expressing associative meaning (Corbett 2000: 110.):

- morphological forms which combine associative and plural marking
- a distinct form marker only for associativity
- normal number forms that differs from ordinary number only semantically

2.2.2 Distributives

“Distributives mark the separation of members of a group, whether entities, events, qualities or locations.” (Corbett 2000: 111.) In other words, distributives emphasize the distinctiveness or disparity of things, or “it may spread (distribute) entiteies over various locations or over various sorts (types).” (Corbett 2000: 112.) As Boas had shown, one of the forms of expressing the notion of distributivity is reduplication. It is relatively common for distributives to co-occur with number markers.

2.2.3. Collectives

A collective “indicates a number of individual entities which are associated together in some ways”. (Cruse 2006: 129.) Corbett states, that “collectives have sometimes been understood as the natural opposite of distributives.” (Corbett 2000: 117) It is important to note that according to this approach collectives does not emphasize the totality of entities, rather it makes one view the entities as a unit, or a mass, as stated by Acquaviva: “If the referent consists of salient discrete entities, the collective can play the role of a mass

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16 Cf Corbett 2000: 112.
17 Note that Cruse 2006 mentions collectives under the headword 'plural' in opposition to Corbett who does not imply collectives in the system of number values.
plural” (Acquaviva 2008: 72). This specificity of the meaning of collectives is grossly overlooked in Sumerology. Collectives may also cooccur with numeral values.

As one may see, these three number-like values have some shared features which exclude them from the number systems. First, their meaning is more specific, more lexical-like than that of the numbers. Second, they may occur together with number values in one word-form; this in itself makes one suspicious about their status as number values.

It is interesting that the above-mentioned general number does not share these features, it is much closer to the number values both functionally and formally, and that is why I grouped it together with number values instead of non-numbers.

2.3 Multiple marking, composed number

Many times nouns take more than one plural marker (so called double plurals (Crobett 2000: 30.)), which may have different meanings. Multiple marking may be realized by agreement, number words, or by means of more than one morphological marker. In certain languages it is normal to have more than one plural marker on a noun (e. g. in Breton, see Corbett 2000: 153, and Acquaviva 2008: 234-265; for examples in Somali, see Acquaviva 2008: 66-67). This does not affect the semantics of number: a plural marked twice by different marker is still a plural without additional semantic nuances.

There are cases, of course, where two (or more) markers have different meanings, for instance, a noun may take a plural and a greater plural marker (as in Warekena, see Corbett 2000: 37), or a paucal and a plural etc. In Breton, the combination of dual and plural has the meaning the plurality of duals; also, two plural marking on the same noun is also available for certain nouns with a lexically determined meaning. It also happens that two markers have a plural meaning respectively when the occur on their own, but the combination of them yields a more specialized (e.g. collective) meaning (cf. Acquaviva 2008: 67-68).

2.4 Number hierarchy, animacy hierarchy

Hierarchies are sequences of implications of certain grammatical values crosslinguistically. A hierarchy of the form X > Y states that if a language has value Y than it has value X as well. From the viewpoint of number, two hierarchies are particulary important: number hierarchy and the animacy hierarchy.
2.4.1 The number hierarchy

The basic form of number hierarchy does not apply to all possible number values: singular > plural > dual > paucal/trial (Corbett 2000: 39)

Corbett, however, shows that in this form, number hierarchy does not cover all possible systems, and suggests another notational form with the introduction of determinate and indeterminate values. Determinate number values determine that “only one form is appropriate” (Corbett 2000: 39), indeterminate values does not have this determining force. For example, dual is a determinate value (I would add: if it is fully productive in a language), since whenever the speaker refers to two entities, it is the value to use. Indeterminate number values are paucal and greater plural.

Corbett describes number systems as sequences of binary choices, where different branches are available for different numbers. The number system of a language with a complex number system (in this example, Sursurunga) looks like the following (Corbett 2000: 42):
2.4.2 The animacy hierarchy

This hierarchy affects languages in many ways. In relation to number it is a common phenomenon across languages that certain parts of the hierarchy are marked differently than other or are not marked at all.\(^\text{18}\) The hierarchy involves the following items:

speaker > addressee > 3rd person > kin > human > animate > inanimate

Changes in the number system can theoretically occur between any two adjacent members of the hierarchy, but it is most common between human and non-human (as in Sumerian) and between animates and inanimates.

Obligatoriness is affected by the animacy hierarchy, too: the more close we get to the left side of the hierarchy, the more often we find compulsory number markers; in other words inanimates are more likely to have optional number markers than animates. (Corbett 2000: 70f.)

On the lower portion of the hierarchy (the second number system) so-called conflated number is present in certain languages. This means that certain number values are marked by the same marker, and these are opposed to other values (and their markers). E.g. in Pame, for a number of lexemes singular and dual are marked the same way, and the opposing value is plural with its own marker. The number values of a conflated system may or may not be the same as the full system on the higher portion of the hierarchy. (See Corbett 2000: 121-124.) In languages with general number, this usually appears in the second system, that is, on the lower end of animacy hierarchy. General number may be in opposition with many values, which, in turn, may be conflated.\(^\text{19}\)

2.5 Facultative number

Not every number value is obligatory in every language. Some languages allow for certain decisions among number values that make certain number values facultative (versus obligatory). This means that the ‘slot’ of number is filled with one of the possible values, but it cannot be predicted which one it will be – or at least not on formal ground. For

\(^\text{18}\) For example in Xie: “... in the majority of North American languages, nouns referring to nonhumans are not marked for number at all. Yet even when plurals do exist, they are not necessarily used.” (Mithun 1988: 212.)

\(^\text{19}\) For other applications of the animacy hierarchy see Croft 2003: 166-175.
instance, in some languages (e.g. Ngan’gityemerri)\textsuperscript{20} the use of trial is facultative: if one wants to speak about three entities, the speaker may choose the trial or the plural based on semantic-pragmatic factors.

In Longu “[subject pronouns on the verb phrase] do not necessarily match the number of the subject; they match or match not, in the third person, the plural may be used where the dual or the paucal would be expected. This use of the plural occurs when the number of the subject has been established (Hill 1992: 130) whether by a noun phrase or by a subject pronoun in a previous clause. (Corbett 2000: 46)

2.6. The Semantics of Plurality

2.6.1 Basic notions behind plurality

Number, where it is not purely inflectional and syntax-governed, revolves around five notions: unity, identity, boundary, cohesion, and instantiation (Acquaviva 2008):

“Unity and identity are the most fundamental concepts, which name respectively the qualities of what is a complete whole in itself, and of what is re-identifiable as one and the same. Boundary is what characterizes something as ‘one’ by reference to its boundedness, as opposed to a diffused continuum or to scattered fragments. Cohesion refers to the mutual bond between elements viewed as naturally co-occurring and conceptualized as parts of a larger whole. Instantiation, finally, is the relation between a property and an entity with that property; as we will see, plurality may bring about a concrete reading in terms of multiple instantiations.”

Acquaviva 2008: 79.

As Acquaviva (2008) shows, the basic reference unit of a category is of crucial importance to the notion of plural in the given category; and unity and identity plays an important role in determining these units.

2.6.2 Mass nouns and count nouns

From the viewpoint of number, these is an important differentiation. Prototypical count nouns are object, and prototypical mass nouns are substances. Langacker, however, notes that no single definitions can be given for these subclasses of nouns, thus the main criterion

\textsuperscript{20} Cf. Corbett 2000: 43.
to distinguish them is their grammatical properties.\(^{21}\) Still, at least the assumption can be made, that entities which can be considered as separate entities and so they can be counted (e.g. clay tablets) are referred to by count nouns, while those that cannot be perceived as independent entities (e.g. sand), and not countable are referred to by mass nouns.

One of the main differences between count and mass nouns is that only count nouns can be pluralized. Still, the concept behind a plural count noun and a mass noun is different: plural nouns refer to a multiplicity of discrete, individual entities, mass nouns have no saliently unique parts. It follows from this that count nouns may have numbers (numerals) while mass nouns haven’t.

The underlying conceptual differences between count and mass nouns is that “A count noun profiles a thing construed ad beind discretely bounded in some fashionm wheras a mass noun referent is amorphous and not inherently limited.” (Langacker 2008: 131.) The very same concept, though, can be perceived as mass or count depending on the aspect regarded as more salient at the moment.\(^{22}\)

\(^{21}\) Cf. Langacker 2008: 129.

\(^{22}\) Langacker’s example is that a pile of wooden pieces can be referred to as ’lumber’ or ’boards’ (Langacker 2008: 131).
3. The expressions of nominal plurality in Sumerian

In this chapter we turn our attention to nominal plurality in Sumerian. As it is known Sumerian has several formal means to mark plurality (plurality understood here in the broadest sense). The semantic content of these forms, however, have not been described adequately in the Sumerological literature, and the terms used in its description lack definitional clarity. Equipped with the general linguistic definitions and distinctions it is possible to offer a more precise and theoretically adequate model of the Sumerian number system. Needless to say, this investigation is severly hindered by the nature of the data available, and the lack of native speakers. The typological and cognitive framework, though, gives us some counterbalance, and makes it possible to provide a relevant classification of the semantic categories expressed by number markers.

The first section lists the formal ways to mark non-singularity in Sumerian, the second section is an overview of findings on nominal number in the Sumerological literature, and the following ones examine number markers one by one, including their possible combinations. We deal in details with the role of zero-constructions (non-marked form that can be understood as plurals), and certain theoretical issues are also scrutinized.

3.1. Formal varieties

Sumerian has a number of formal (morphological) devices to mark some type of number distinctions of participants expressed in a sentence. These are the following:

- the enclitic\textsuperscript{23} \textbf{en}\textsuperscript{24}
- reduplication of a noun (N.RDP)\textsuperscript{25}
- reduplication of a stative verb (V\textsuperscript{stat}.RDP)
- stem alternation of the verb
- pronominal affixes on the verb
- plural copula

\textsuperscript{23} For a general overview on enclitics see Dixon – Aikhenvald 2003b; for Sumerian, see Jagersma 2010.

\textsuperscript{24} In the main text I indicate all Sumerian material, both analyzed and unanalyzed by bold characters. In Sumerian sentences I indicate only the transliteration by bold.

\textsuperscript{25} Mainly I follow the morphological glossing of the Zólyomi-Tanos-Sővegjártó 2008-. Grammatical features are marked by small capitals. In the main text, all Sumerian elements are indicated by bold. In the examples, only the transliteration is distinguished by bold.
- the ’number word’ didli
- the ’number word’ hi-a
- ’collectives’ with the derivative element nam-

Some of these occur in combinations:
- reduplication of a noun + ene (+ verbal pronominal markers)
- reduplication of a stative verb + ene (+ verbal pronominal markers)
- didli + ene

To give an exhaustive description of the number system of Sumerian, there are several questions to answer:
- What is the function (or are the functions) of zero?
- What are the values of different markers?
- Do the combination of markers modify the meaning of one or more of them, and if it does, in what way?
- Is pronominal marking dependent on the markers NP (agreement), or is it an independent way of marking plurality?

The typological overview in chapter 2 has shown that number marking is much more complex than singular – plural oppositions. It must be specified if Sumerian had paucal, greater plural, collective, distributive markers, and if it did, which were these, and how other variables, as animacy influenced their usage.

In this chapter I investigate the different morphological means mentioned above, and try to specify their meanings as precisely as possible describing the formal and functional effects they have on each other.

### 3.2 Earlier approaches to nominal plurality

#### 3.2.1 Falkenstein 1950

##### 3.2.1.1 Ene

Falkenstein assumes no inflectional marker (“Bildungselement”) in Sumerian, and states that plurality is not expressed in many cases. He refers to pronominal affixes of the verb as primary means of marking plurality (Falkenstein 1950: 46, fn. 2). He assumes that ene serves as a dual (“Zweizahl”) and also as a plural marker of the person class, and derives the enclitic from the reduplication of the demonstrative morpheme /e/. Besides ene there
are two other ways of expressing plurality: noun reduplication and adjective (or participle) reduplication, and also the 3rd plural form of the enclitic copula (meš). The morpheme ene is never attached to a noun if it is the subject of an intransitive or passive verb (i.e. in the absolutive).

Falkenstein also interprets many non-marked cases as ’collective singulars’ both in the human and the non-human class (for a critique of this category see section 3.3.3).

3.2.1.2 Noun reduplication
For the reduplication of the noun, Falkenstein suggests that it is used „wenn sich im Plural der eizelne Teil deutlich abhebt und wesentlich ist” (47), which is close – but not equals – to a distributive reading, and constrasts it with collectives like sheep in a flock, or bricks in a building.

3.2.2 Attinger 1993
3.2.2.1 Ene
Attinger states that before the Ur III period only nouns in the ergative or in an oblique case, not followed by a numeral can take the enclitic ene. Nouns in the absolutive are non-marked for number, or have the plural copula meš.

3.2.2.2 Reduplication
For the reduplication of a noun pluralized by ene, Attinger assumes a totality meaning. as to the non-pluralized reduplicated nouns he mentions that these frequently occur with the oblique cases, and suggests that their translation should be “les …” or “tous les…” (Attinger 1993: 161).

Regarding the question of the semantic function of adjective reduplication (i.e. whether this reduplication marks plurality or not), Attinger offers three observations which favour an affirmative answer:
- N Adj,RDP and N,RDP are practically in complementary distribution.
- The constructions N,RDP Adj, N,RDP Adj,RDP and N Adj=ene are almost never attested.
- Most adjectives belongs to a subclass of verbs, and their reduplication marks the plurality of the object, or the subject (cf. 5.4.5.6).
3.2.2.3 Collectives

Attinger distinguishes two types of what he calls collective:

- A human bare noun plus a verb with plural pronominal marking, or a noun marked for plurality and a verb form without pronominal marking (for an explanation of this phenomenon see section 3.3.3).
- A human noun in the singular or the plural with a 3. person non-human affix on the verb. There is no explanation, however, why these particular constructions should be regarded as collectives.

3.2.3 Thomsen 2001

3.2.3.1 Plurality of nouns

Thomsen distinguishes among three categories regarding nominal plurality: animate\(^{26}\) nouns, animate collective nouns and inanimate nouns, and the values singular, collective, plural “reduplication: totality” (both with animate and inanimate nouns), and a non-defined value for the combination of a reduplicated noun and the enclitic ene.

For animate nouns, Thomsen suggest that single stems may also have a collective interpretation (cf. section 3.3.3), the forms with the enclitic ene are plural, and reduplicated nouns refer to the totality of the named entity (cf. section 3.4). She offers no interpretation, however, for the combination of reduplication and ene.

For non-reduplicated inanimate nouns, Thomsen suggest that they can be singular or collective and for the reduplicated forms she offers a totality reading.

Collective animate nouns are obviously collective in their simple forms and “normally have no plural suffix” (60), but can have plural agreement on the verb.

3.2.4 Edzard 2003

3.2.4.1 En
e

Edzard describes ene as the ’proper’ plural marker “implying two or more counted objects”, and the marker as a “special suffixed particle” (31).

\(^{26}\) Thomsen used the opposition animate – inanimate for what is called human and non-human in this study.
3.2.4.2 Noun reduplication

Edzard regards reduplication as an alternative way to mark plurality, which, at least in certain cases “serves the need to express the idea of plural where the simple sg. base which may sometimes also function to express a collective … would lack clarity.” (31)

It is interesting to note that Edzard mentions that substantives can take several number values: “singular, non-singular, plural, collective, detailed, etc.” (24), and suggests that didli indicates a “detailed” plurality (32), and that “plurality may be present in a simple unextended substantive with collective meaning” (33, cf. also 25). (For an analysis of didli see section 3.5.)

3.2.5 Jagersma 2010

3.2.5.1. Ene

Jagersma provides the most detailed account of the enclitic ene. He notes that “[n]ouns are not inflected for number” (105) because NPs with non-human heads are not marked for number. He also states that ene “is a phrase-final clitic” (105). It is well-known that ene appears only on NPs with a human head, and marks the plurality of the head, but Jagersma also enumerates exceptions for this rule. These are:

- the marker ene is not used “when a plurality of nouns is seen as a collective” (111).
- it is also absent “from human nouns if their plural meaning is already made clear by other means” (111), e.g. quantified by numerals.
- the enclitic is also absent on nouns marked with the absolutive case. According to Jagersma it is because “plural meaning of a noun in the absolutive case is already made clear by other means” (111), for example by verbal pronominal marking, or plural form of the verb. An exception is if two nouns are coordinated in an NP, and the plural pronominal marking on the verb does not make it clear which noun is plural.

3.2.5.2 Noun reduplication

Full reduplication of the noun stem is another way of marking some kind of plurality for nouns. Reduplication is not restricted to human nouns, it occurs with non-humans as well.

27 This latter phenomenon is widely known cross-linguistically: “Many languages neutralize the number opposition in the context of numerical modification especially in agglutinating languages where plural is a discrete suffix, nouns governed by a numeral must take the unsuffixed form, equivalent to the singular.” (Acquaviva 2008: 25-26)
Jagersma, however, notices a decreasing type-frequency of reduplicated nouns in time, and concludes that its productivity also decreased. (I will get back to this issue, see chapter 3.4.3). As to the function of noun reduplication, Jagersma suggests two meanings: a 'totality’ reading where the reduplicated noun refers to each of the named entity, and a ‘distributive’ reading where “a reduplicated noun refers to multiple entities while emphasizing the separateness of each individual entity. It has a distributive function and refers to entities ‘here and there’” (114). In other words, a spatial distributive (cf. chapter 2.2.2 above) meaning is assumed. Jagersma also notes that the expression kur-kur ‘lands’ is an exception with a simple plural meaning, because “[I]f it has a plural meaning, it necessarily refers to separate entities. Because of this, the distributive function of reduplication has for the noun kur a one-to-one relationship with a plural meaning.” (116) (For my – somewhat different – views on noun reduplication and particulary on kur-kur, see section 3.4.)

3.2.6 Foxvog 2012

3.2.6.1 Ene

Foxvog describes ene as an explicit marker of plurality in the human class, and points out that the /n/ is the “personal [human] gender deictic element” (24). It is an important note because – besides typlogical arguments – this is an additional clarification why ene occurs only with human nouns.

3.2.6.2 Noun reduplication

Reduplicated nouns have a 'totality’ interpretation in Foxvog’s grammar, that is, a meaning translated by “all individual persons or items” (24).

3.2.6.3 Non-marked forms

Foxvog suggests that forms with no overt number marker may be singular, plural, or collective. He points out that certain lexemes are inherently collective, such as erin2 ’workers, troops’, or ugnim ’army’. (Cf. section 3.3.3 and especially 3.3.3.2.)

3.3. The distribution of ene

3.3.1 General remarks
**Ene** may occur in different constructions in a noun phrase depending on the participant is pluralized. Consider the following examples:

1. Gudea Cyl A: x 12

   **an lugal diğir-re-ne-ke₄**
   an lugal diğir=en=ak=e
   DN king god =PLUR=GEN=ERG
   “An, king of (all the) gods.”

2. NSGU 113: 36.

   **lu₂ inim-ma-ğu₁₀-ne**
   lu inim=ak=ğu=en=Ø
   man word=GEN=POSS.1S=PLUR=ABS
   “my witnesses”

3. Meš-kigala 2001: 5’

   **nam-til** **dam** **dumu-ne-ne-še₃**
   namtil dam dumu=ani=en=ak=še
   well-being spouse child=3SG.H.Poss=PL=GEN=COM
   “for the well-being of his spouse and children”

4. Irikagina 1: iv 13-14

   **gana₂** **sag₉-ga** **diğir-re₂-ne-ka**
   gana sag-'a diğir=en=ak=a
   field to be good-PST.PTC god=PLUR=GEN=L₁
   “on the fertile fields of the gods”

5. Irikagina 3: i 20’

   **munus** **ud-bi-ta-ke₄-ne**
   munus ud=bi=ta=en=ene
   woman day=DEM₂=ABL=GEN=PLUR
   “women of the former days”

6. Irikagina 3: i 23’
munus ud-da-e-ne
munus ud=ak=ene
woman day=GEN=PLUR

“women of today”

(7) Lugal-zagesi 1: i 34-35

agrig-mah diğir-re-ne-ra
tagrigmah diğir=ene=ak=ra
top administrator god=PLUR=GEN=DAT.H

“for the top administrator of the gods”

(8) Utu-hegal 4: 53-54

dumu iri-na-ke1-ne gu3
mun-ede2-e

dumu iri=ani=ak=ene=ra
child city=3.SG.H.POSS=GEN=PLUR=DAT.H

“He addressed a speech to the citizens of his city”

(9) Proverbs: collection 3: 267-271

ha-ma-gu-be2-en

ha-m-gub-en
gudug-ene

mod-ven-to stand-2.SG.H.S
priest=PLUR

haš2-za

haš=zu=’a
thigh=2.SG.POSS=L1

ašgab-e-ne
to turn=PST.PTC
fuller=PLUR

ub-da

ub=da

lukur-e-ne

corner=COM

FIN-3.SG.H.S-to stand
priestess=PLUR

ga-ba-e-de3-gub

ga-ba-ed-en-gub

nu-kiri3-ke4-[ne]
MOD-MID-PF-1.SG.S-to stand
gardener=PLUR

27
"You should serve me" is typical of purification priests. Bowing over your hips is typical of leather-workers. To be stationed in all corners is typical of lukur women." I will be there with you" is typical of gardeners." I swear by Enki that your garments will take no time in this establishment" is typical of fullers.  

(10) En-metena 1: i 3

ab-ab 
 giorni-di giorno-re-ne-ke4
abba 
 giorno, giorno=ene=ak=e
father 
 god.rdpl=PLUR=GEN=ERG

“(Enlil,) father of all gods.”

(11) Irikagina 1: iv 6- 8

ugula-ugula-ne 
 bar 
 sila4
ugula,ugula=ene=e 
 bar 
 sila
overseer.RDP=PLUR=ERG 
 outside 
 lamb

gaba-ka-ka 
 kug 
 bi-gar-re2-eš2
gaba-ak-ak-'a 
 kug=Ø 
 b-i-n-gar-eš
chest=GEN=GEN=L2.NH 
 silver=ABS 
 3.NH-L2-3SG.H.A-to put-3.PL

“All overseers paid silver tax on the fleece of suckling lambs.”

(12) Irikagina 1: viii 24-27

28 Cf. Alster’s translation: “«You should serve me» (is what) the purification priests (say). “«Let me bend over your thigh» (is what) the leather workers (say). To stand in the corner (is what) the courtesans (do). «Let me assist you» (is what) the gardeners (say). «I swear by Enki that your garments will not stay long in the house» (is what) the fullers (say).” Alster 1997: 104.
še-gub-ba gudu₄-ge-ne-ta ka-guru₇ e-ta-šub
še-guba gudu=ene=ak=ta kaguruk=Ø i-b-ta-n-šu-Ø
barley priest=PLUR=GEN=ABL supervisor=ABS FIN-3.NH-ABL-3.SG.H.A-to fall-3.SG.P rental

“From (control over) the gudug priests' barley rentals he removed the granary supervisors.”

(13) Irikagina 1: ix 2-6
dupsik sağğa-sağğa-ne e₂-gal-še3
dupsik sağğa sağğa=ene=e egal=še
basket administrator.RDP=PLUR=ERG palace=TERM

mu-guru₃-a maškim-bi
m-n-gur-₃a=ak maškim=bi=Ø

e-ta-šub
i-b-ta-n-šub-Ø
FIN-3.NH-ABL-3.SG.H.A-to throw-3.SG.P

“He abolished the obligation that all the temple administrators pay dupsik-tax for the palace.”

(14) Irikagina 3: i 11’-16’ (1.9.9.3)
agrig-ge-ne ugula-ne gala-e-ne lu₂-bappir₃-ke₄-ne
agrig=ene ugula=ene gala=ene lubappir=ak=ene
housekeeper=PLUR overseer=PLUR singer=PLUR brewer=GEN=PLUR

udu siki u₃-mu-de₀
udu siki u-m-de
sheep wool REL.PST-VENT-to carry

“the housekeepers, overseers, singers, brewers brought wool(producing) sheep”

(15) Irikagina 3: i 7’-9’
Since ene is an enclitic occupying the fourth structural position of an NP, it may or may not be adjacent to the noun it pluralizes. For example, in (2) it is adjacent to the word *inim* 'word', in (5) it is adjacent to *ud* 'day', and in (8) to *iri* 'city' all three non-human, but it pluralizes *lu₂* 'man', *munus* 'woman' and *dumu* 'child', respectively.

The examples above show that there is no semantic constraint on the applicability of *ene* on members of the human class: gods ((1), (4), (7), (10)), profession names ((2), (9), (11)-(15)), kinship terms ((3), (8)), and other general terms referring to humans ((5), (6), (9)) can take this enclitic.

The morphological status of *ene* (enclitic) can be seen of its various positions according to the head noun of the NP. The examples above show different positions of the enclitics: in certain ones (e.g. (10), (11), (12), (13), (14), (15) it immediately follows the head noun, while in others (e.g. (5), (6), (8) it is preceded by another element in the genitive and/or with a possessive marker. In other words its position is not bound in the word form but in the whole nominal phrase. It occupies the fourth position of the NP, and can be preceded by a non-finite verb form (an 'adjective'), an NP in the genitive or a possessive enclitic.²⁹ It is, then, followed by another case marker, which is the case marker of the whole noun phrase. If an embedded NP is also pluralized by *ene*, theoretically two tokens of the enclitic may occur in the chain of clitics.³⁰

The enclitic *ene* is restricted to the human class, which is a cross-linguistically reinforced pattern. As Corbett and others note, it is a very common split cross-linguistically to choose different plural forms for animate and inanimate participants; and to find no marker of plurality in the inanimate gender is common, too.

The enclitic may follow a simple or a reduplicated human noun (cf. (11) and (14)). This phenomenon is important for the semantics of nominal reduplication, and the

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²⁹ The enclitic status of the possessive enclitics can be shown in the same vein.
³⁰ For instance the expression 'for the children of the wives' would look like *[dumu]*₁

\[[dam=ene=ak]₂ \text{ene}=ra.\]

differences in the distribution of reduplication and ene reveals a lot about their places on the inflection-derivation continuum. This issue is discussed in 3.3.6.

Although ene is regarded the general marker of plurality by some authors\(^{32}\) it is not obviously true. As we will see later both the absolute and relative frequency of forms marked with ene varies much from register to register. This phenomenon has many reasons. One of these is thematics: for example in the so-called unadug corpus the issues usually involve more non-human participants (most often grain or animals), thus we expect a lower number of plurals with ene. Still, the fact remains that the enclitic ene may be the default, that is (semantically) unmarked, way of expressing plurality, but as it will be seen, many restrictions limit its occurrence. The restrictions of the use of ene involve the following:

- It is never used after numerals. If the number of participants is given, the noun phrase does not contain the enclitic copula. Even if an enclitic copula is given, it is a singular form; cf. (16):

  (16) TCS 1 147: o 3-4

<table>
<thead>
<tr>
<th>120</th>
<th>enin(_2)</th>
<th>umma(^{k\text{-}})-ta</th>
<th>i\text{-}im-\text{-}\text{gen-na}</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>enin=Ø</td>
<td>umma=ta</td>
<td>i-m-\text{-}\text{gen-}'a</td>
</tr>
<tr>
<td>120</td>
<td>troop=ABS</td>
<td>SN=ABL</td>
<td>FIN-VEN-to go-SUB</td>
</tr>
</tbody>
</table>

  60-am\(_3\) | lu\(_2\) | na-ma-\text{-}\text{šum}\(_2\) |
  60-am    | lu=Ø   | na-m-a-\text{šum} |
  60-cop   | person=abs | MOD-1.SG.H-DAT-to give |

“(Of the) 120 soldiers who came from Umma, 60 must be given to me.”

- In constructions with the plural form meš of the copula the enclitic ene does not occur if the pluralized noun is the subject, except if the NP referring to the subject contains a genitive construction.\(^{33}\)

- Nouns in coordination (enumeration) usually are either all marked with ene, or, in a smaller number of cases, only the last member of the enumeration is marked with the enclitic.\(^{34}\) In these cases it is difficult to decide whether all members are


\(^{33}\) See Jagersma 1999, 6/3.

\(^{34}\) See ibid.; cf. also ch. 3.3.4
pluralized or not, cf. (3), where in principle the noun dam ‘spouse’ could be pluralized, too. It is important to note that coordinated nouns are regarded plurals in Sumerian, and this fact is reflected in the verbal pronominal marking. These characteristics of ene, as discussed in detail in section 3.3.5 lead to a significant discrepancy between the attestations of ene and verbal pronominal marker, with a relatively low number of clear cases of agreement.

<table>
<thead>
<tr>
<th>corpus</th>
<th>frequency of ene</th>
<th>relative frequency&lt;sup&gt;35&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>royal inscriptions (ETCSRI)&lt;sup&gt;36&lt;/sup&gt;</td>
<td>56&lt;sup&gt;37&lt;/sup&gt;</td>
<td>0.30% (3/1000 words)</td>
</tr>
<tr>
<td>letters (TCS 1)&lt;sup&gt;38&lt;/sup&gt;</td>
<td>9</td>
<td>0.15% (1.5/1000 words)</td>
</tr>
<tr>
<td>Gudea Cylinders&lt;sup&gt;39&lt;/sup&gt;</td>
<td>13</td>
<td>0.26% (2.6/1000 words)</td>
</tr>
<tr>
<td>di-til-la documents (NSGU)&lt;sup&gt;40&lt;/sup&gt;</td>
<td>60</td>
<td>0.58% (5.8/1000 words)</td>
</tr>
</tbody>
</table>

Table A. Frequency data of ene in different corpora

This table shows that ene is a relatively infrequent grammatical item in the chosen corpora, its frequency is under 10/1000 text words in each text type. It is interesting, however, that the ditilla texts show the highest frequency, since in this genre participants are listed most times. On the other side, since almost all legal texts involve multiple human participants, it is expected that anaphoric reference to these participants is expressed with ene. Although there are multiple participants in the unadug texts, too, they are more often referred to by collective nouns (as erin ‘workers, troops’), and since the texts are very brief, most times there is no back-reference to participants in a second clause or sentence.

### 3.3.2 The lack of absolutives pluralized by ene

As noted already by Falkenstein (1950), and later by Attinger (1993) and Jagersma (2010), ene does not occur with nouns in the absolutive case, regardless the grammatical gender of the noun. Jagersma (2010: 111) explains this phenomenon with the fact that the number of

---

<sup>35</sup> Frequency of ene/text words.

<sup>36</sup> 18622 text words, data revised at 09.19.2012

<sup>37</sup> Data revised on 08.31.2012. Since the ETCSRI corpus contains the cylinders of Gudea, these attestations are deducted from the total number of search results.

<sup>38</sup> Estimated number of text words: 5990.

<sup>39</sup> Estimated number of text words: 4820.

<sup>40</sup> Estimated number of text words: 10190.
the noun is marked by other means (verbal pronominal markers or stem alternation) in these cases, thus ene is not needed to clarify its value. This explanation, however, is problematic.

Consider the following two sentences:

(17) En-šakuš-Ana 1: 6-7

ud diğir-re-ne e-na-ne₂-eš₂-a
ud diğir=ene=e i-n-a-n-e-eš-'a-'a

“When the gods commanded him”

(18) TCS 1 203: o 3

di-kud ib-du₂-ru-ne₂-eš
dikud=Ø i-b-Ø-durun-eš
day deity=ABS FIN-3.NH.SG-L2.SYN-to sit.PL-3.PL.S

“The judges have sat there.”

(19) Gudea Cyl. A: xiv 1 – xiv 4

\[d²-a-[nun-na]\] ki lagaš\(^k\) e₂
anuna ki Lagaš=ak e
DN place SN=GEN house

\[d²-nin-\text{gir}_2-su-ka\] du₃-de₃ gu₃-de₂-a sizkur₂
Ninğirsuk=ak=Ø du-ed-e Gudea=da sizkur
DN=GEN=ABS to build-PF-3.SG.H.A RN=COM prayer

\[ra₂-\#zu-[\text{(X)}]\] mu-da-an-šu₄-šu₄-ge-eš₂
arazu='a m-da-ni-sug-sug-eš
supplication=PLUR RN=COM-L1-to stand.PLUR.RDP-3.PL.H.S

“In order to build the house of Ninğirsu, the Anuna gods of the land of Lagaš stood by Gudea in prayer and supplication.”

The two types can be summarized in a simple table:
Table 1: distribution of ene with NPs in the ergative and absolutive

<table>
<thead>
<tr>
<th>case</th>
<th>plural marking by ene</th>
<th>verbal pronominal marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>ergative</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>absolutive</td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

This table shows that nouns both in the ergative and in the absolutive trigger pronominal number marking, thus the question arises: why does pronominal marking elicit ene in the second case but not in the first? If the explanation above would be correct, the expected pattern would be complementary distribution of ene and verbal pronominal marking, since plurality can be expressed both by verbal pronominal markers and the plural form of the verb in both cases. But this is not the case, which suggests that another kind of explanation is needed.

I offer a solution which relying on the basic differences between the typical agent and the typical patient. In Sumerian, agents are typically people or deities, that is, members of the human class. On the other hand, patients (especially objects of transitive verbs) are more frequently non-human. This tendency is fortified by the high number of compound verbs which have non-human (and non-referential) direct objects without exception. This frequency-distribution may have lead to the difference in marking: since patients – items marked by the absolutive case – tend to be non-human, and non-humans do not allow number marking in the form of the enclitic ene, ene is eliminated in other nouns in the absolutive by a constructional analogy, resulting in the situation described above, leaving verbal pronominal marking and stem alternation as number markers.

Ergativity also has an important role in this process: since subjects of intransitive verbs are marked the same way as object of transitive verbs, and it is the latter which is mostly non-human, the analogical (lack of) marking (or zero-marking) supposedly spread from objects to subjects, on the basis that they have the same type of case-marking and the same syntactic characteristics.

### 3.3.3 Non-marked nominals

41 Cf. Evans-Green 2006: 604. Typical, here, is understood as most frequent.

42 The analogical effect of frequent constructions on the less frequent ones, often manifested in regularization is well known in linguistic literature, cf. Bybee 1985; Bybee 2010.

43 It must be noted, however, that this explanation assumes a historical change in Sumerian that must have happened before writing emerged. Another possibility is that this is an ‘original’ phenomenon in Sumerian
3.3.3.1 Non-humans and humans

Investigating the non-marked (or zero-marked) nominals for number (i.e. where is no indication of plurality by any of the means mentioned above) we should distinguish between human and non-human headed NPs. Consider the following examples:

(20) E-IGI.NIM-pa-e 2: 6-7

\[ \text{ur}_2\text{-be}_2 \text{ ki-še}_3 \text{ temen} \text{ ba-sig}_9 \]

root=3.SG.NH.POSS=L3.NH earth=TERM foundation MID-3.SG.H.A-to put-

peg=ABS 3.SG.P

“At its base, he drove in foundation pegs.”

(21) Ur-Nanše 2: LT 1-6

\[ \text{ur}^{d}\text{-nanše} \text{ lugal} \text{ lagaš} \text{ ma}_2 \]

Ur-Nanše lugal Lagaš=ak=e ma

RN king SN=GEN=ERG ship

\[ \text{dilmun} \text{ kur-ta} \text{ gu}_2 \text{ ĝeš} \text{ mu-غال}_2 \]

Dilmun kur=ta=Ø gu=’a ĝeš=Ø m-n-a-y-;/gal-Ø

GN mountain=ABL=ABS neck=L2.NH wood=ABS VENT-3.SG.H.DAT-L2-to be-3.SG.S

“At Ur-Nanše, king of Lagaš, established control of the Dilmun-boats (coming) from the foreign countries.”

Repeated in Ur-Nanše 5: ii 5 - ii 6 without the phrase kur-ta.

(22) Irikagina 1: iii 5 – iii 13

\[ \text{lu}_2\text{-ma}_2\text{-lah}_5\text{-ke}_4 \text{ ma}_2 \text{ e-dab}_5 \text{ anše} \text{ u}_2\text{-du-le} \]

lumal=ak=e ma=Ø i-n-dab-Ø anše=Ø udl=e

sailor=GEN=ERG ship=ABS FIN-3.SG.H.A-to seize-equid=ABS herdsman=ERG

3.SG.P

\[ \text{e-dab}_5 \text{ udu} \text{ u}_2\text{-du-le} \text{ e-dab}_5 \]

i-n-dab-Ø udu=Ø udl=e i-n-dab-Ø


3.SG.P
“the chief boatmen appropriated boats. Donkeys were appropriated by the chief herdsmen. Sheep were appropriated by the chief herdsmen. (Fishes) were appropriated (from) the fish container by the fisheries inspector.”

(23) Irikagina 1: viii 14 – viii 23

ma₂-ta  lu₂-ma₂-lah₅  e-ta-šub
ma=ta  lumalah=Ø  i-b-ta-n-šub-Ø
ship=ABL  sailor=ABS  FIN-3.NH-ABL-3.SG.H.A-to fall-3.SG.P

anše-ta  udu-ta  u₂-du-bi  e-ta-šub
anše=ta  udu=ta  udul=bi=Ø  i-b-ta-n-šub-Ø

“From (control over) the boats he removed the chief boatmen. From (control over) the donkeys and sheep he removed their chief herdsmen. From (control over) the gudug priests' barley rentals he removed the granary supervisors.”

(24) Gudea Statue F: iii 12 – iv 13

gud  šu₄-dul₄-la  si  ba-ni-sa₂-sa₂
gud=Ø  šudul=’a  si=Ø  b-a-ni-n-sa-sa-Ø

engar  gud-ra-bi  im-mi-us₂  ab₂
engar  gudrah=bi=Ø  i-m-b-i-n-us-Ø  ab
3. SG.

zid-da amar zid mu-ni-du₁₀-du₁₀
zid=’a amar zid=Ø m-ni-n-du-du-Ø
to be right=L₁ young right=ABS VEN-L₁-3.SG.H.A-to bear.RDP-3.SG.P

unud-bi bi₂-us₂ u₈ zid-da
unud=bi=Ø b-i-n-us-Ø u zid=’a
cowherd=3.SG.NH.POSS=ABS 3.NH-L₃-2.SG.H.A-to follow-3.SG.P ewe to be right=L₁

sila₄ zid mu-ni-du₁₀-du₁₀ sipad-bi
sila zid=Ø m-ni-n-du-du-Ø sipad=bi=Ø
lamb to be VEN-L₁-3.SG.H.A-to bear.RDP- shear=3.SG.NH.POSS=ABS
right=ABS 3.SG.P

im-mi-us₂ ud₅ zid-da maš₂
i-m-b-i-n-us-Ø uzud zid=’a maš
FIN-VEN-3.NH-L₃-3.SG.H.A-to follow-3.SG.P goat to be right=L₁ goat

zid mu-ni-du₁₀-du₁₀ sipad-#bi
zid=Ø m-ni-n-du-du-Ø sipad=bi=Ø

im-mi-#us₂ anše ama-gan-a dur₃
i-m-b-i-n-us-Ø anše amagan=’a dur

kaš₄-bi šu im-ma-ba
kaš=bi=Ø šu=Ø i-m-ba-n-bar=Ø

na-gada-bi bi₂-us₂
nagada=bi=Ø b-i-n-us-Ø
“He organized yokes of oxen, and assigned farmers and ox drivers to them. He ensured that fecund cows gave birth to numerous healthy calves, and assigned cowherds to them. He ensured that fecund ewes gave birth to numerous healthy lambs, and assigned shepherds to them. He ensured that fecund goats gave birth to numerous healthy kids, and assigned shepherds to them. He let swift donkey stallions mate with breeding she-asses, and assigned herdsmen to them.”


<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>tur₃</td>
<td>du₃-a-da</td>
<td>a-maš</td>
<td></td>
</tr>
<tr>
<td>tur=Ø</td>
<td>du-ed-’a</td>
<td>amaš=Ø</td>
<td></td>
</tr>
<tr>
<td>stall=abs</td>
<td>to build-PF-SUB</td>
<td>sheepfold=ABS</td>
<td></td>
</tr>
</tbody>
</table>

| du₃-a-da | u₈       | zid-da   |
| du-ed-’a | u        | zid=’a   |
| to build-PF-SUB | ewe | to be right=PST.PTC |

| sila₄    | #du₃#du₃-a-da | udu-nitah₂ | u₈ |
| sila=Ø   | du-du-ed-’a  | udunitah=e | u  |
| lamb=ABS | to build.RDP-PF-SUB | ram=ERG | ewe |

| zid-bi   | šu        | ba-ba-ra-da | ab₂ |
| zid=bi=e | šu=Ø      | bar-bar-ed-’a | ab  |
| right=3.SG.NH.POSS=L3 | hand=ABS | cvve.RDP-PF-SUB | cow |

| zid-da   | amar     | gub-gub-ba-da | šag₄-ba |
| zid=’a   | amar=Ø   | gub-gub-ed-’a | šag=bi-’a |
| to be right=L1 | calf=ABS | to stand.RDP-PF-SUB | heart=3.SG.NH.POSS=L1 |

| gadninda₂ | gu₃      | nun-bi     | di-da     |
| breeding bull | voice | nun=bi=Ø | di-ed-’a |
| gu        | prince=ADV2=ABS | to speak-PF-SUB |
“to see that cattle-pens and sheepfolds will be erected; to see that lambs abound around healthy ewes; to have the rams let loose on the healthy ewes; to see that numerous calves stand beside healthy cows; to see that breed bulls bellow loudly among them; to have the oxen properly yoked and to have the farmers and ox drivers stand beside them; to have donkeys carry packsaddles and to have their drivers, who feed them, follow behind them”

(26) Irikagina 1: iii 18- col iv 1.

“The shepherds of wool-bearing sheep paid silver tax on the fleece of the (ritually) pure sheep”

(27) Irikagina 1: iv 9.
gud digir-re₂-ne-ke₄

gud digir=ene=ak=e

ox god=PLUR=GEN=ERG

“the oxen of the gods”

Repeated in Irikagina 3 col. i 22’-25’. In both cases the verbs show singular form.

(28) Gudea Cyl. A: xii 23

<table>
<thead>
<tr>
<th>ki</th>
<th>lagaški-e</th>
<th>dumu</th>
<th>ama</th>
</tr>
</thead>
<tbody>
<tr>
<td>ki</td>
<td>Lagaš=e</td>
<td>dumu</td>
<td>ama</td>
</tr>
<tr>
<td>place</td>
<td>SN=ERG</td>
<td>child</td>
<td>mother</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>dili-a-gin₇</th>
<th>šag₄</th>
<th>mu-na-AŠ-e</th>
</tr>
</thead>
<tbody>
<tr>
<td>dili=ak=gin</td>
<td>šag=Ø</td>
<td>m-n-a-AŠ-e</td>
</tr>
<tr>
<td>single=GEN=EQU</td>
<td>heart=ABS</td>
<td>VEN-3.SG.H-DAT-to be one-3.SG.H.S</td>
</tr>
</tbody>
</table>

“The land of Lagaš became of one accord for him, like children of one mother.”


<table>
<thead>
<tr>
<th>šim</th>
<th>erek</th>
<th>ir-sim</th>
<th>digir-ra-kam</th>
</tr>
</thead>
<tbody>
<tr>
<td>šim</td>
<td>erek</td>
<td>irsim</td>
<td>digir=ak=am</td>
</tr>
<tr>
<td>resin</td>
<td>cedar</td>
<td>scent</td>
<td>deity=GEN=3.SG.H.COP</td>
</tr>
</tbody>
</table>

“cedar resin, the scent of gods.”


<table>
<thead>
<tr>
<th>lu₂-uzug₅-ga</th>
<th>ni₂</th>
<th>ġal₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>lumuzug=ak</td>
<td>ni=Ø</td>
<td>ġal=Ø</td>
</tr>
<tr>
<td>unclean person=GEN</td>
<td>fear=ABS</td>
<td>to be=ABS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>lu₂-si-gi₁-a</th>
<th>ġeš₃</th>
<th>bir₂</th>
<th>munus</th>
</tr>
</thead>
<tbody>
<tr>
<td>lusig</td>
<td>ġeš</td>
<td>bir=Ø</td>
<td>munus</td>
</tr>
<tr>
<td>unknown</td>
<td>penis</td>
<td>to sneer=ABS</td>
<td>woman</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>kiğ₂</th>
<th>dug₄-ga</th>
<th>iri-ta</th>
<th>im-ta-e₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>kiğ=Ø</td>
<td>dug='a=Ø</td>
<td>iri=ta</td>
<td>i-m-b-ta-n-e-Ø</td>
</tr>
</tbody>
</table>
He expelled the ritually unclean, the abhorrent ones, the ..., the impotent ones, and the confined women from the city. No earth-basket was carried by women, (only) (ritual) transvestites worked for him on the building. He built the temple of Ningirsu in a place as pure as Eridug. No one was whipped, no one was lashed. No mother hit her child.

In examples (20-27) there is no indication about how many designated entities are referred to, still, the context makes it obvious that there are more than one.

What follows from this is that in the non-human class there is no number distinction made by means of an inflectional plural marker at all; in other words this class lacks

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44 Many other examples are collected by Falkenstein (1950: 49-51) under the heading 'collective singular'.
inflectional number. This type of non-markedness, then, is outside of the number system, and thus can be called general number (see section 2.1.1 above): non-human nouns do not have a regular formal way to determine the number of entities referred to at all, thus it is the context that determines whether one or more entities are meant. It is in accordance with the animacy hierarchy for a language to have general number for a lower class of nouns, as is seemingly the case in Sumerian. It is important to note that these are not cases of (formally) non-marked plurals since there are no (formally) marked plurals in the non-human class to make a morphological (or syntactic) opposition.

Much more problematic is the case of human-headed NPs with no overt number marking seemingly not referring to a given single entity. In examples (22), (23), (24) and (25) it seems improbable (or at least debatable) that the expressions with human heads refer to one practitioner of the given professions respectively. In example (22) and (23) it can be debated whether the text is about one chief boatman (lumalah), chief herdsman (udul) etc., or not. A similar question can be raised about example (24): are there one or more farmers (engar), ox-drivers (gudrah) and cowherds (unud)? While it is obvious that the text speaks about more than one animals, it is not as clear in the case of humans. A possible reading of these clauses would be “He organized yokes of oxen, and assigned a farmer and an ox driver to (each of) them. He ensured that fecund cows gave birth to numerous healthy calves, and assigned a cowherd to (each of) them."\[45\] This reading would explain the lack of plural marking of the human nouns and is in line with the expectation that human nouns have to be determined for a number value.

If one assumes that some type of plurality is present in these examples, there are a number of possibilities to choose from. The first one would be to suppose that general number is not restricted to non-human headed NPs, but is applicable to humans as well. This would mean that a non-marked human NP may refer to one or more than one entities depending only on the context, just as in the case of non-humans discussed above. This solution raises a serious question: how to handle ene if plurality has no obligatory marking in the human class? It was assumed that though there are some constraints on the presence of ene, within its scope it is a compulsory element. If we reject this assumption, it is necessary to clarify where ene must and must not appear, that is, where is it possible to substitute the enclitic with zero, thus invoking general number. This can not be assigned to

\[45\] It is important to note that this question is not about the definite – indefinite opposition, but the individual – kind one.
an inventory of lexemes, since many of the non-marked humans in the examples above have the regular enclitic in other texts (for malah=ene see ITT 3, 4811: 2; TCL 5, 5673: o ii 28, etc; for kaguruk=ene see ASJ 20, 97, 1: r iii 16; MVN 07, 534: 3; for engar=ene see ASJ 3, 158 123, o 1; MVN 9, 97: r 5, r 7 etc; for unud=ene see OIP 15, 364: 22; UET 3 1038: 10; AAS 42: 2 etc; for sipad=ene see AnOr 1, 8: 5; MVN 13, 457: 3 etc).

Still, it can be maintained that Sumerian has a general-singular (marked by zero) vs plural (marked by ene) opposition\(^{46}\) in the human class, where the 'regular’ plural marker ene is also optional and its use depends on pragmatic factors unknown to us. These factors would be even more difficult to reveal since it is not uncommon to have the same type of nouns (e.g. profession names) with and without ene in the very same text.

Another possible interpretation is what is called a ‘kind-referring’ expression where the number opposition is also neutralized (cf. Acquaviva 2008: 23, 112-116),\(^{47}\) but in a different way than in the case of general number. This phenomenon is well-known in many languages, as in English one can say “The tiger has a striped fur”, referring to the whole species instead of a certain tiger or a particular group of tigers.\(^{48}\) Our examples in (24) and (25), however, do not necessarily support this latter interpretation: it is not the whole 'kind’ of farmers, ox-drivers etc. who are assigned to certain duties, but single persons, since the statements themselves are not general in nature, like “The ox-driver herds oxes” in English would be. In other words, I suggest that these are not cases of the neutralization of number values, but cases where single human entities are assigned to groups of non-human entities.

Similar questions may be asked concerning the examples of Falkenstein (1950) under the heading “Der kollektive Singular bei Nomina der Personenklasse” [Collective singulars in the person class – i.e. the human class in our terms]. The first thing to clarify is that these examples are not collectives in the sense of current linguistic typology (see section 2.2.3 above). It is arguable, however, whether they are to be analysed as kind-referring expressions, or singulars.

Example (28) and (29) have plural standard translations, however, this is not obvious from the texts themselves. As for (29) the translation „cedar resin, the divine

\(^{46}\) As is the case in several languages (cf. Corbett 2000). In these languages, however, this opposition is usually restricted to a certain part of the noun inventory, and as it could be seen, this is not the case in Sumerian.

\(^{47}\) In Acquaviva’s words: „kinds are beyond the singular– plural opposition” Acquaviva 2008: 113. This also explains why a plural marker is unnecessary for kind-referring expressions.

\(^{48}\) See also Corbett 2000: 19, where he describes this type as “general reference”.

43
"scent" renders the original as precisely as the standard translation without a plural reference which cannot be shown in the morphological structure of the sentence. Example (28) may also have an alternative translation „like the unity of child and mother”. In these sentences the plural reference is not present morphologically, and has been added by the translators, respectively.

Or else it may be argued that these nouns are lexically plural or 'collective’, that is, without any morphological marking they can have a plural interpretation. I will argue that there are certain nouns in Sumerian that are collective in this sense, but their number is limited, and there is no reason to count e.g. *dumu* 'child, and *díɡir* 'deity’ among them based on such ambiguous examples as (28) or (29).

Example (30) is a longer excerpt of Gudea Statue B talking about the dismissal of different types of (at the time) deviant people in Lagaš, with somewhat better examples of what may qualify as non-marked plurals. The morphology is strictly singular in the passage: both verbal pronominal affixes, and the possessive enclitic *ani* in the last clause shows no marking of plurality. This suggests a similar interpretation to that I suggested for examples (24) and (25), but in this case it would have a more awkward result, since it is obvious that not one or a particular group of the named types of people were expelled, or allowed to work. This is also an important difference between (24), (25) and (30): this latter text expresses general statements about certain types of entities, thus the kind-referring interpretations comes into play.

I would not suggest, however, to say that it is a neutralization of number values in the human noun class; rather it is a possibility of singular nouns to be applied in general statements. This type of reference is only available when the whole type is referred to (cf. also Acquaviva 2008: 114-115); for particular subgroups other means of plurality are required.

It must be also noted that seemingly the zero-construction is not compulsory for kind-referring expressions. Consider the following example:


ha-ma-gub-be₂-en gudug-e-ne
ha-m-gub-en gudug=ene
mod-ven-to stand-2.SG.H.S priest=PLUR

haš₂-za gur-ra ašgab-e-ne
haš=zu=’a gur-’a ašgab=ene
thigh=2.SG.POSS=L1 to turn=PST.PTC fuller=PLUR

ub-da an-gub lukur-e-ne
ub=da i-n-gub lukur=ene
corner=COM FIN-3.SG.H.S-to stand priestess=PLUR

ga-ba-e-de₃-gub nu-kiri₆-ke₄-[ne]
ga-ba-ed-en-gub nukiri=ene
MOD-MID-PF-1.SG.S-to stand gardener=PLUR

zi dën-ki i₃-pad₃ tug₂-zu
zi Enki=ak i-pad tug=zu=Ø
life DN=GEN FIN-to find garment=2.SG.POSS=ABS

e₂-a ud ba-ra-zal-e lu₄azlag₂-e-ne
e’a ud ba-r-a-zal-ed azlag=ene
house=L1 day MID-2.SG.H-DAT-to pass-PF fuller=PLUR

“You should serve me« is typical of purification priests. Bowing over your hips is typical of leather-workers. To be stationed in all corners is typical of lukur women. »I will be there with you« is typical of gardeners. »I swear by Enki that your garments will take no time in this establishment« is typical of fullers.”

The – somewhat enigmatic – statements in the sentence are typical kind-referring expressions (if our understanding is correct), still, the enclitic ene is present in every clause. This, and other similar examples (e. g. in many cases diģir=ene can be understood as a kind-referring expression) show that there was no compulsory rule to choose the zero-construction in these contexts. The factors behind the choice between zero, and ene-constructions remain obscure, because they are most probably of pragmatic and/or stylistic nature, thus mostly indecipherable in lack of native Sumerian speakers.⁴⁹

⁴⁹ If one assumes that these zero-constructions express general number, it would be logical to expect to see the five critera of distinguishing these values (see ch. 2.1.1) to work here. They are, however, not applicable in the examples above, since sentences that fulfil the requirements of singular reading also use the zero-construction.
3.3.3.2 Lexically collective nouns

As it was seen in the section on earlier approaches, most Sumerologist assume a class of nouns which can be interpreted as collectives by their lexical meaning. Such nouns are also well-known in other languages. In English examples of this phenomenon are *council, army, team* etc. These lexemes have a special common semantic feature, namely that their individual members do not fall into the same category with the group: while any member of a group of *dogs* is a *dog* (and a subgroup of *dogs* still can be called *dogs*), a single member or a subgroup of an *army* is not an *army*.

Certain nouns are good examples of this in Sumerian. These also name a group certainly containing more than one individual members, like *erin₂* 'troops, team’, or *ugnim* 'army'. In the case of non-human nouns (*e₂* 'complex of houses suggested by Thomsen 2001, *ku₆* 'fish’, *udu* 'sheep’ and *tug₂* 'clothing’ suggested by Edzard 2003) one should be aware of two problems: first at least some of these do not satisfy the criterion mentioned above: all subgroups of sheep are still sheep etc.; and second, general number in the non-human class opens up many possible interpretations, because of the lack of morphological oppositions. Hence, it is very difficult to tell whether a certain token has a plural or a collective reading; I suggest, however, that since these words do not satisfy the criteria of collectivity in a strictly linguistic sense, the terms should be dropped in these cases.

3.3.4 Common nouns in juxtaposition

The following examples contain clauses in which there are two or more common nouns (mainly profession names) listed, that is, they are in juxtaposition:

(32) Irrikagina 3: i 11’-16’

<table>
<thead>
<tr>
<th>agrig-ge-ne</th>
<th>ugula-ne</th>
<th>gala-e-ne</th>
<th>lu₂-bappir₃-ke₁-ne</th>
</tr>
</thead>
<tbody>
<tr>
<td>agrig=ene</td>
<td>ugula=ene</td>
<td>gala=ene</td>
<td>lubappir=ak=ene=e</td>
</tr>
<tr>
<td>housekeeper=PLUR</td>
<td>overseer=PLUR</td>
<td>singer=PLUR</td>
<td>brewer=PLUR=ERG</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>udu</th>
<th>siki</th>
<th>u₃-mu-de₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>udu</td>
<td>siki=ak=Ø</td>
<td>u-m-n-de-Ø</td>
</tr>
<tr>
<td>sheep</td>
<td>wool=GEN=ABS</td>
<td>REL.PST-VENT-3.SG.H.A-carry-3.SG.P</td>
</tr>
</tbody>
</table>

“the housekeepers, overseers, singers, brewers brought wool(producing) sheep”
It can be seen that while in the first example all nouns are pluralized by *ene*, in the second one only the last member of the list has the enclitics, although it seems obvious in this context that these are also in the plural. The enclitic, therefore, pluralizes all the former nouns of the clause (there are similar examples of case marking in Sumerian). Probably these two ways of marking the plurality of lists of nouns are in free alternation; the first type, however, is more frequent.

3.3.5 *Ene* and verbal pronominal marking

3.3.5.1 The scope of agreement

It could be seen already in the general remarks (section 3.3.1) that relation of *ene* to the verbal 'agreement' markers is ambivalent. In this chapter I investigate the correspondence of *ene* and verbal pronominal person-number markers. This investigation includes the occurrences of *ene* and the verbal markers in ETCSRI, the Gudea cylinders, the unadug letters and the ditilla texts. In these corpora, every instance is studied and the closed nature of this set of text enables not only qualitative but also quantitative analysis, since we are able to compare absolutive and relative frequency of attestations of the enclitic *ene*, the

---

50 In a somewhat similar manner to what we find in Xie: “Number is not required on nouns, but various plural markers are available (so this is a general/singular versus plural system). And once a referent is established as plural, plural marking is not repeated… for particular emphasis on plurality, two plural markers can be used together” (Corbett 2000: 37.) Although the conditions are not identical, the lack of plural markers are allowed in both languages if plurality is marked somewhere.
verbal pronominal markers and agreement, where both ene and the corresponding verbal pronominal markers are present in the same clause.  

<table>
<thead>
<tr>
<th></th>
<th>ETCSRI</th>
<th>Gudea cylinders</th>
<th>unadug</th>
<th>ditilla</th>
</tr>
</thead>
<tbody>
<tr>
<td>ene</td>
<td>54</td>
<td>13</td>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>plural verbal pron. markers</td>
<td>46</td>
<td>24</td>
<td>43</td>
<td>91</td>
</tr>
<tr>
<td>agreement</td>
<td>4</td>
<td>1(^{55})</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>dative agreement</td>
<td>4</td>
<td>2(^{54})</td>
<td>1(^{55})</td>
<td>8(^{56})</td>
</tr>
</tbody>
</table>

Table 2: ene and verbal pronominal marking

It can be seen that there is high discrepancy between the number of pluralized noun phrases and verbal plural pronominal marking. This phenomenon has several reasons. In the royal inscriptions many noun phrases pluralized by ene appear in the genitive case as parts of epitheta (34) or in other contexts (35):

(34) En-metena 1: v 30

<table>
<thead>
<tr>
<th>lu₂</th>
<th>inim</th>
<th>diğir-re₂-ne</th>
<th>dab₅-ba</th>
</tr>
</thead>
<tbody>
<tr>
<td>lu</td>
<td>inim</td>
<td>diğir=ene=ak=Ø</td>
<td>dab-'a=ak</td>
</tr>
<tr>
<td>person</td>
<td>word</td>
<td>deity=PLUR=GEN=ABS</td>
<td>to seize-SUB=GEN</td>
</tr>
</tbody>
</table>

51 It must be noted that no data is available concerning the exact size of the non-digitalized corpora, i.e. the unadug and ditilla texts. Thus the relative frequencies are based on the estimated number of text words in these text sets.

52 Numbers in the unadug corpus are debatable. These texts display extremely low consistency in number marking, which may have both orthographical and linguistic reasons. Most probably not all scribes had the same level of competency in Sumerian. Verbal pronominal suffixes –ene and –eš are almost never written (an exception is TCS 1 173 r 9), and there is unsteadiness in the usage of plural dative verbal pronominal markers, possessive enclitics (cf. TCS 1 124 r 6, TCS 1 128 r 6), and also in the use of the nominal enclitic ene. Hence the number of found plural markers depend on how much we reconstruct. My main principle in the numerical analysis was that I never 'corrected' the scribe: even if a plural marker would have been expected, words with a singular marker were not counted among plurals.

53 Cyl. A x 28

54 Cyl. B i 20, i 21

55 TCS 1 153 r 7

56 No. 84 12-14 is an example of both agent and dative agreement.
“who conveys the commands of the gods”

(35) En-metena 1: ii 39-42

<table>
<thead>
<tr>
<th>enmetena 1</th>
<th>ii 39-42</th>
</tr>
</thead>
<tbody>
<tr>
<td>barag</td>
<td>ri-a</td>
</tr>
<tr>
<td>barag</td>
<td>ri-a</td>
</tr>
<tr>
<td>dais</td>
<td>to impose-SUB</td>
</tr>
</tbody>
</table>

nam-nun-da-ki-ğar-ra | ab-du₃-a | i₃-gul-gul |
Namnundakiğara=a | a-b-Ø-du-Ø-’a-Ø | i-n-gul-gul-Ø |
SUB-ABS |

“He destroyed the pedestals erected for the gods that were set up at Namnunda-kiğara.”

In many similar clauses the pluralized participant is embedded in a phrase where the verbal pronominal marker may be agreement with the head of the outer NP, and if this head is non-human, plural pronominal marking is unnecessary. The structure of the sentence above is the following:

[[barag₃₁] [ri-’a₃₁] [[dįgir=ene₃₄]=ak₃₅]₃₆]₃₇ [[Namnundakiğara₃₁-’a₅₅] a-b-du-’a₅₆]₅₇=Ø₅₈

where the head of the whole NP is barag ‘dais’, and the following expressions serve as modifiers. The whole clause is in the absolutive, plus its head is non-human, so it does not trigger agreement.

In other cases the phrase with ene stands with a case that does not trigger plural verbal pronominal marking, usually the terminative:

(36) NSGU 34: 3-4

ma-hu-ma | arad₂ | ku-da | mar-tu-ke₄ |
ahuma | arad | kuda | martu=ak=e |
PN | slave | PN | martu=GEN=ERG |

igi | di-kud-ne-še₃ | igi-[ni] | in-ğar₄ar |
igi | dikud=ene=ak=še | igi=ani=Ø | i-n-ğar-Ø |
eye | judge=PLUR=GEN=TERM | eye=3.SG.H.POSS=ABS | FIN-3.SG.H.A-to place-3.SG.P |

“Ahuma, the slave of Kuda, the Martu, appeared before the judges.”
The data above shows that these are the most frequent cases: in the ETCSRi 8 of 54 examples of eñe have a corresponding verbal pronominal marker, and this ratio is 1 to 13 in the Gudea cylinders, 1 to 9 in the unadug corpus and 20 to 60 in the ditilla texts.

In other cases verbal pronominal markers are present, but there is no corresponding noun pluralized by eñe. As it was mentioned the reasons are manifold: the NP may be in the absolutive (see section 3.3.2), or may have a general reference (see section 3.3.3). However, there are many cases in which none of the above possibilities are present, and the lack of eñe has other reasons. In certain sentences the agent has been referred to in a former clause, or has no overt (nominal) reference at all:57

(37) Gudea Cyl. A: xxi 13\textsuperscript{58}
\begin{center}
\begin{tabular}{ll}
\textit{giš-kan}_\textsubscript{4-na} & \textit{ma-si-si-ne} \\
\textit{geškanak}=Ø & m-n-si-si-ene \\
door frame=ABS & VEN-3.SG.H.A-to fill,RDP-3.PL \\
\end{tabular}
\end{center}
“They inserted the wooden door frames”

This type also occurs in royal inscriptions:

(38) Lugal-zagesi 1: iii 32-34
\begin{center}
\begin{tabular}{ll}
\textit{nam} & \textit{sa}_\textsubscript{g9-ga} & \textit{mu-tar-re-eš}_{2-a} \\
\textit{nam} & sa-g=Ø & m-y-n-tar-eš’=a’-a \\
\end{tabular}
\end{center}
\begin{center}
\begin{tabular}{ll}
\textit{šu} & \textit{na-mu-da-ni-bala-e-ne} \\
šu=Ø & na-m-n-da-ni-b-bala-ene \\
\end{tabular}
\end{center}
“May they (Enlil and Ninlil) never change the good fate they determined for me!” -\textit{mt}

In another type the verb with plural markers is preceded by a list of names, that is, proper names in juxtaposition. This type is extremely frequent in the NSGU texts, where the issues regularly involve a number of people, and also occurs in the ditilla corpus:

\textsuperscript{57} For the pronominal nature of Sumerian verbal person-number (and other) markers see Zólyomi 2010.

\textsuperscript{58} There is a series of this type of plurals in Cyl. A: xxi 13, xxi 19, xxi 20, xxi 21, xxi 22, xxi 26, xxii 4, xxii 5, xxii 7, xxv 14, xxv 17, and in Cyl B: iv 11, iv 12
(39) NSGU 30: 5-7

\[\text{mā}^3\text{lu}_2\text{-diḡir-ra} \quad \text{maḡiš-a-ni} \quad <\text{u}_3> \quad <\text{ur-še-il}_2\text{-la}>\]

\text{lu-diḡirak} \quad \text{gišani} \quad u \quad \text{uršeila}

PN \quad PN \quad and \quad PN

\[\text{nam-}\text{lu}_2\text{-inim-ma-še}_3 \quad \text{ib-}\text{ta-e}_3\text{-eš}\]

\text{namluuinim=ak=še} \quad i-b-ta-e-eš

\text{witnesshood=GEN=TERM} \quad \text{FIN-3.NH-ABL -to go out-3.PL.S}

“Lu-diḡirak, Gišani and Uršeila appeared as witnesses.”

(40) TCS 1 6: o 1 – r 6\(^{59}\)

\[\text{mā}^3\text{a-tu} \quad \text{mā}^3\text{lu}_2\text{-urub}_x \quad \text{mā}^3\text{lugal-ma}^3\text{2-[gur}_8\text{-re]} \quad \text{lu}_2\text{-sa-gaz-me}\]

\text{atu} \quad \text{lu-urub} \quad \text{lugal-magure} \quad \text{lusagaz-meš}

PN \quad PN \quad PN \quad robber-3.PL.COP

\[\text{[bara}_2\text{-}^\#\text{si}_11\text{-ga}_x^3\text{-a}} \quad \text{i}_3\text{-durun}_x\text{-eš}_2\]

\text{barasiga=’a} \quad i-durun-eš

\text{SN=L}1 \quad \text{FIN-to sit.PL-3.PL.S}

“Atu, Lu-Urub, (and) Lugal-magure are robbers, they are being held in Barasiga.”

This type of ‘agreement’ also occurs in literary texts and royal inscriptions:

(41) Gudea Cyl. B: xi 4-xi 14

\[\text{d}^4\text{za-za-ru} \quad \text{d}^4\text{iškur-pa-e}_3 \quad <\text{d}^4\text{ur}_2\text{-agrunt-a-e}_3\text{-a} \quad \text{d}^4\text{he}_2\text{-ğiř}_2\text{-nun-na}\]

\text{zazaru} \quad \text{iškurpa-e} \quad \text{ur-agraunta-ea} \quad \text{heģir-nunak}

DN \quad DN \quad DN \quad DN

\[\text{d}^4\text{he}_2\text{-şag}_4\text{-ga} \quad \text{d}^4\text{zu}_2\text{-ur}_2\text{-ţu}_1\text{0} \quad \text{d}^4\text{za-ar-ţu}_1\text{0} \quad \text{dumu}\]

\text{hešagak} \quad \text{zurţu} \quad \text{zarţu} \quad \text{dumu}

DN \quad DN \quad DN \quad child

\[\text{maš} \quad 7 \quad \text{d}^4\text{ba}_2\text{-me} \quad \text{ban}_3\text{-da}\]

\text{maš} \quad 7 \quad \text{bau=meš} \quad \text{banda}

---

\(^{59}\) I follow the transliteration and translation of Michalowski 1993: 74.
twin 7 DN=3.PL.COP child

ten $^d$nin-ĝir$_2$-su-ka-me nam-šita sag$^o$-ga
en ninĝirsuk=ak=meš namšita sag$^-$a
lord DN=gen=3.PL.COP prayer to be good-PST.PTC

en $^d$nin-ĝir$_2$-su-ra mu-na-da-šu$_4$-ge-eš$_2$
en ninĝirsuk=ra m-n-a-da-šug-eš
lord DN=DAT VEN-3.SG.H-COM-to stand.PL-3.PL.S

“Zazaru, Iškur-pa-e, Ur-agrunta-ea, He-Ĝir-nuna, He-šaga, Zurğu and Zarğu, who are Bau's septuplets, the offspring of Lord Ninĝirsu, stepped forward to Lord Ninğirsu with friendly entreaties (on behalf of Gudea).”

Considering all the possible constructions the distribution of ene and verbal pronominal markers can be summarized in the following table:

<table>
<thead>
<tr>
<th>Type of NP</th>
<th>ene</th>
<th>verbal pronominal markers</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-humans</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>humans + erg</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>humans + dat</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>humans + abs</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>humans in oblique cases</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>humans in embedded NPs$^{60}$</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>proper names in apposition</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>human type-referring</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 3: NP types, ene and verbal pronominal markers

The table shows that although there are many variations where ene or plural pronominal markers may occur, their co-occurrence is restricted to only two syntactic constructions: solely pluralized human heads of NPs in the ergative or the dative trigger verbal agreement. The small size of the section of the scope of ene and that of verbal pronominal

$^{60}$ Assuming that the head of the NP is not pluralized itself. The lack of agreement with embedded NPs is most probably a universal constraint. (For the relevant hierarchies, see Corbett 2006.)
markers explain why we see relatively large numbers of plurals but a very small number of real plural agreement.

3.3.5.2 Irregularities: lack of agreement

It would be expected that when the conditions are given (the pluralized participant is the head of a NP, it is human, and is in the dative or ergative case) e-ne is always followed by plural pronominal marking on the verb. This general rule is, however, violated in certain cases:

(42) Irikagina 1: iii 14-iii 17

\[
\begin{align*}
gudu^3-ge-ne & \quad \text{še-gub-ba} & \quad \text{ambar}^{3\text{-a}} & \quad e-\text{aḡ}_2 \\
gudug=e-ne=e & \quad \text{šeguba}=Ø & \quad \text{ambar}=’a & \quad i-n-\text{aḡ}-Ø \\
priest=\text{PLUR}=\text{ERG} & \quad \text{tax}=\text{ABS} & \quad \text{SN}=L1 & \quad \text{FIN}-3\text{.SG.H.A}-\text{to pay}-3\text{.SG.P} \\
\end{align*}
\]

“The gudug priests paid barley rentals in Ambar.”

(43) Irikagina 1: v 4-v 21

(from v 4 to v 19: a list of commodities)

\[
\begin{align*}
\text{saḡga-saḡga-ne} & \quad \text{dupsik-še}_3 & \quad i_3\text{-guru}_3\text{-am}_6 \\
saḡga-saḡga=e-ne=e & \quad \text{dupsik}=še & \quad i-n-\text{gur}-Ø=’a-am \\
temple & \quad \text{tax}=\text{TERM} & \quad \text{FIN}-3\text{.SG.H.A}-\text{to carry}-3\text{.SG.P}-\text{SUB-COP} \\
\end{align*}
\]

“As dupsik-tax all the temple administrators delivered” (items from the list)

As far as I can judge, this is an extremely rare and irregular type occurring only in certain inscriptions of Irikagina. Thus most probably it is due to scribal error, or the repercussion of the differences between spoken and written Sumerian of the time. As opposed to somewhat similar cases in the unadug texts (see fn. 52 above), it cannot be understood as an orthographic defectiveness, since plural pronominal markers are normally written in the very same texts.

Since there is no sufficient data to recognize a pattern in this irregular type, it is not considered as a constructional type of pluralization, where e-ne is not followed by verbal pronominal markers.
3.3.6 Inflection or derivation?

After clarifying its distribution, the next question to be answered is the inflectional or derivational nature of ene. As we have seen above, it is not obvious whether it is an inflectional or a non-inflectional grammatical element. The three main factors that affect the inflectional status of a number marker are as follows (cf. Acquaviva 2008):\(^{61}\)

- **Obligatoriness:**\(^{62}\) inflection is obligatory if “Regardless of its exponence, one of the values defined by the number opposition is mandatory in any one grammatical context.” (Acquaviva 2008: 21)
- **Generality:** “If a language has number inflection for certain lexical categories (nouns, adjectives, verbs), the relevant oppositions apply to all lexical items in those categories.” (Acquaviva 2008: 25)
- **Determinism:** “the property of entirely determining a unique form, automatically and necessarily selected by the grammar without room for choice.” (Acquaviva 2008: 33)

The case of ene is interesting in the light of the criteria above.

Generality is obviously highly restricted in the case of ene. NPs with non-human heads, with cardinal or ordinal numbers, appositions of proper names, and NPs in the absolutive are not pluralized by the enclitic. This leaves a very limited area for ene, namely human headed NPs in cases other than the absolutive.

Given this limited range, the next question is whether ene is obligatory or not within its scope; or more precisely: is there a paradigm consisting of a zero and ene from which one item is always present in this range? Assuming a zero marker for singular of humans, the answer must be positive: aside from the special case of kind-referring (see section 3.3.3 above) a number value is assigned to every NP within the scope of ene. In this respect, ene behaves like an inflectional marker, and can be regarded obligatory. Determinism seems to be less problematic since (at least in III. millenium Sumerian) there are no alternative ways of expressing pure plurality in Sumerian: noun reduplication has certain additional semantic values, and does not replace the use of ene with human nouns.

---

\(^{61}\) There are many sets of criteria to distinguish between inflection and derivation (cf. Dressler 1989; Ladányi 2001; Stump 2005; Janda 2007 etc.). The reason I chose that of Acquaviva is that it is specifically utilized on number markers.

Hence, we could say that inflectional plurality in Sumerian is restricted to a small class of NPs, but works properly within this class. This description helps to avoid the problems emerging if we consider *ene* a derivational marker, since it does not behave like one: derivational markers create new lexemes, are sporadic, non-obligatory, tend to create idiosyncratic meanings, are prone to lexicalize and none of these attributes seem to fit *ene*. On the other hand, this restrictive scope of plural marking is typical of lexical plurality, i.e. number affected by lexical semantics: „Lexical semantics can restrict the application of number in two main ways: by motivating a distinction between a set of nouns to which the number opposition applies and another set to which it does not; and by motivating subgroupings among nouns to which the opposition applies.” (Acquaviva 2008: 28) It is obvious, that the first case applies here: non-human nouns have different number values than humans. In this sense, there is exclusively lexical number in Sumerian. Also, the exact setting in Sumerian is a widely attested one cross-linguistically: „In a great many languages, only nouns with animate or human referents have a singular and a plural; other nouns either are not marked for number at all, or only optionally” (Acquaviva 2008: 28)

3.4 Noun reduplication

3.4.1 Reduplication of human nouns

There are relatively few lexemes in the human class that occur in the reduplicated form in 3rd millenium texts. The most frequent is *diğer* ‘deity’ undoubtedly due to the nature of the texts. In most, but not all, cases the reduplicated noun is followed by the enclitic *ene*.

(44) Irikagina 1: iv 2-iv 8

<table>
<thead>
<tr>
<th><strong>lu₂-eš₂-gid₂</strong></th>
<th><strong>gala-mah</strong></th>
<th><strong>agrig</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>surveyor</td>
<td>galamah</td>
<td>agrig</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>lu₂-bappir₃</strong></th>
<th><strong>ugula-ugula-ne</strong></th>
<th><strong>bar</strong></th>
</tr>
</thead>
</table>

63 Another possible approach is to regard number a derivational category at all. This approach is taken by Beard (1995) and has strong arguments against seeing number as an inflectional category. For a detailed discussion (and also criticism) of this line of arguments see Acquaviva 2008: 51-52.

64 For the analysis of the theoretical possibility that the reduplicated forms are actually cases of repetition, see Appendix 2.
“The surveyors, chief lamentation-priests, stewards, brewers, and all overseers paid silver tax on the fleece of suckling lambs.”

This example is particularly interesting because it demonstrates two different phenomena: on one hand it is a list of profession names pluralized by the enclitic ene on the last element of the sequence of nouns in apposition; on the other hand, the last one of the elements is reduplicated besides the plural marking.

(45) En-metena 1: i 1-3

<table>
<thead>
<tr>
<th>d'en-lil₂</th>
<th>lugal</th>
<th>kur-kur-ra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enlil</td>
<td>lugal</td>
<td>kur-kur=ak</td>
</tr>
<tr>
<td>DN</td>
<td>king</td>
<td>land.RDP=GEN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ab-ba</th>
<th>điģir-diģir-re₂-ne-ke₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>abba</td>
<td>điģir-diģir=ene=ak=e</td>
</tr>
<tr>
<td>father</td>
<td>deity.RDP=PL=GEN=ERG</td>
</tr>
</tbody>
</table>

“Enlil, the king of all lands, the father of all gods”

(46) Gudea 67: 5

<table>
<thead>
<tr>
<th>ama</th>
<th>dumu-dumu-ne-ra</th>
</tr>
</thead>
<tbody>
<tr>
<td>ama</td>
<td>dumu-dumu=ene=ra</td>
</tr>
<tr>
<td>mother</td>
<td>child.RDP=PL=DAT.H</td>
</tr>
</tbody>
</table>

“(For) the mother of all children”

(47) Irikagina 1: iv 19-iv 22

<table>
<thead>
<tr>
<th>anše</th>
<th>sur₁-ra</th>
<th>gud</th>
</tr>
</thead>
<tbody>
<tr>
<td>anše</td>
<td>sur=ak</td>
<td>gud</td>
</tr>
<tr>
<td>equid</td>
<td>people=gen</td>
<td>ox</td>
</tr>
</tbody>
</table>
The team donkeys and the unblemished oxen were harnessed for the temple administrators.

It is interesting to note that the expression saĝga-saĝga-ne occurs four times in Irikagina 1, but it does not occur in the form saĝga-ne in any royal inscriptions. Some profession names occur in the reduplicated form, and others again in the non-reduplicated form with ene.

(48) Lugal-zagesi 1: ii 21-22.

<table>
<thead>
<tr>
<th>barag-barag</th>
<th>ki-en-gi</th>
<th>ensi₂</th>
<th>kur-kur-ra</th>
<th>ki</th>
<th>unug⁶⁵ ge</th>
</tr>
</thead>
<tbody>
<tr>
<td>ruler.RDP</td>
<td>GN</td>
<td>governor</td>
<td>land.RDP=GEN=ABS</td>
<td>place</td>
<td>GN=DAT.NH</td>
</tr>
</tbody>
</table>

me nam-nun-še₃ mu-na-gurum-e-de₃
me namnun=ak=še m-n-a-gurum-ed-eš
halo princehood=GEN=TERM VENT-3SG.H-DAT-to bend-PF-3PL.H.S

"all the rulers of Sumer and the governors of the foreign lands will prostrate themselves before the land of Uruk in front of the divine powers because of him."

(49) Sargon 1: 77-78

[dumu]-dumu [ag-ge-de⁶⁵]
dumu-dumu Agade=ak=e
child.RDP SN=GEN=ERG

"the citizens of Agade"

(50) Lugalbanda in the mountain cave: 251-253

⁶⁵ saĝga=ene has a few attestations in other types of texts, cf. Syracuse 3 ii 1; TUT 121 o iv 8; UET 3 1695 3.
Like rich old men, the old women praise your sunshine sweetly, until their oldest days."

It can be said that by rule the reduplication of nouns in the human class are followed by the enclitic ene. This is an important observation since it suggests that the two have different functions: if reduplication would function only as a marker of plurality, either that or ene would be unnecessary. Another possible explanation would be that it is a type of double plural marking (see section 2.3), but the occurrences of noun reduplication are not systematic by any means. The sporadical attestations of reduplicated nouns (see tables 4, 5 and 6 below) suggest that it is more of a derivative construction with a special meaning element which is appropriate only in certain contexts. As we have seen in chapter 2, besides the basic and (more or less) universal number opposition (singular – plural) there are other number, or number-related values a marker can express. Among these are paucal, greater plural, collective, distributive and associative.66

Two of these possible values can be dismissed easily: paucal and associative. Consider example (45) repeated as (51) with a paucal translation:

(51) En-metena 1: i 1-3

d'En-lil₂ lugal kur-kur-ra
Enlil lugal kur-kur=ak

66 The question may arise whether reduplication has the meaning related to number at all. Two arguments favour a positive answer: cross-linguistically reduplication tends to have meanings related to number (cf. Moravcsik 1978); and in those examples where ene is lacking (cf. (48), (49) and (50) above) reduplication occurs in a context where a plural form is expected, thus it seems that in these context it stands as a plural marker.
Enlil, the king of all lands, the father of a few/a couple of/some of the gods

This interpretation is awkward, and does not fit the religious concepts of Sumerians. In most contexts, a paucal reading of noun reduplication would result such unacceptable translations. The same argument is applicable to an associative reading, and a reduplicated noun pluralized by ene is almost impossible to translate in any sensible way. Consider example (45) repeated here as (52) with such a translation:

(52) En-metena 1: i 1-3

\[\text{en-lil}_2\] \[\text{lugal}\] \[\text{kur-kur-ra}\]

Enlil lugal kur-kur=ak
DN king land.RDP=GEN

Enlil, the king of all lands, the father of the (?) gods and their groups

It is very difficult to explain to whom the expression marked by the reduplication would refer to.

Excluding these values we are left with greater plural, collective, and distributive. As it was mentioned before, there is a confusion in the meanings of the former two: collective is often defined as ‘referring to all possible examples’; so is greater plural. But as we have seen in section 2.2.3 collective is not about all possible reference but the neglecting of differences within a group of entities; the prototype of collective is a set in which none the members of the named entity does instantiate the entity (cf. also 3.3.3.2). Distributives, on the other hand emphasize some kind of difference among the members of the set: it may be a spatial or a type-difference, the point is that a disparity of entities is foregrounded.

\[\text{Since English does not have morphological expression for associatives, I follow Corbett (2000: 101ff.) in translating them ’and his group’.}\]
It could also be seen (see section 3.2) that in Sumerological literature noun reduplication is largely considered to have a 'totality' meaning, called greater plural here. This reading fits to many contexts without a doubt and meets the cross-linguistic tendencies of noun reduplication (cf. Moravcsik 1978). It also explains the combination with ene: 'all entities' is a subcategory of 'more than one entities', hence it can be regarded a case of composed plural (see section 2.3). We also expect for this type of meaning to occur sporadically, since there are relatively few contexts where all the entities of a category must be referred to.

Jagersma’s idea about a second meaning, however, cannot be dismissed. In certain clauses the greater plural readings seems odd, or at least questionable. Examples (45) and (46) are clear examples of a greater plural meaning. Example (44), on the other side, is more questionable. The reduplicated noun is at the end of a long list of professions, mostly pluralized by ene, and ugula is the only one reduplicated. The significance of this group is far from obvious from the context, and the rightness of the greater plural reading remains somewhat obscure. Example (47) provides another case in point: there are more than one possible readings of the sentence. A distributive reading would suggest that each sańga had his own donkeys and oxen individually, a translation would be the following: “Team donkeys and unblemished oxen were harnessed for individual68 temple administrators (respectively).” Other examples are even more problematic to interpret as greater plurals:

(53) Nik 1 203: iv 1-3

<table>
<thead>
<tr>
<th>šu-niğin₂</th>
<th>20</th>
<th>anše</th>
<th>tur-ra</th>
<th>mah-ba</th>
</tr>
</thead>
<tbody>
<tr>
<td>šuniggin</td>
<td>20</td>
<td>anše</td>
<td>tur='a</td>
<td>mah-bi-'a</td>
</tr>
<tr>
<td>total</td>
<td>20</td>
<td>donkey</td>
<td>to be small=PST.PTC</td>
<td>to be big-CON-SUB</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>anše</th>
<th>gurum₂-ma</th>
<th>šid-da</th>
<th>dumu-dumu-ne-kam</th>
</tr>
</thead>
<tbody>
<tr>
<td>anše</td>
<td>gurum='a</td>
<td>šid-'a</td>
<td>dumu-dumu=ene=ak=am</td>
</tr>
<tr>
<td>donkey</td>
<td>inspection=1L1</td>
<td>to count-PST.PTC</td>
<td>child.RDP=PLUR=GEN=COP</td>
</tr>
</tbody>
</table>

“20 small and big donkeys total; These are the donkeys which were counted during stock-taking and which belong to the individual children”

In this example the reduplicated construct refers to two daughters of the ruler, and to their respective possessions. This is clearly a distributive function which has not much to do with totality.

68 The English expression ‘each’ is misleading in these examples, since it suggests a totality reading.
There seems to be no fast and hard rule to determine whether a given example of noun reduplication is to mark greater plural or distributive. My suggestion is that the greater plural meaning has significant stylistic value, hence more probable to occur in royal inscriptions and literary texts. The distributive function fits more in the context of economic texts. It can be seen that although we find examples where reference is present to a whole group in e.g. the ditilla and the unadug texts, these are never marked by noun reduplication. This shows that a) reduplication is not a compulsory construction that has to be realized in every relevant context; b) it is of stylistic importance and is mostly avoided in the brief, concise texts where eloquence is unnecessary.

For those human nouns that are reduplicated but not accompanied by ene, different explanations are needed. In (48) **barag-barag** would be expected to be pluralized (at the end of the NP). The lack of ene is most probably due to the fact that the primary meaning of **barag** is ‘dais’ and thus it belongs to the non-human class. And as in the case of **kur-kur** (see 3.4.2 below) the personification does not entail a change in grammatical category. It is interesting that in the OB period we find the reduplicated form with **ene** which suggests that the human meaning ’ruler, high-ranking person’ became most salient to this period.

Examples (49) and (50) have reduplicated human nouns **dumu-dumu** and **abba-abba** respectively. Akkadians undoubtedly understood that non-human nouns cannot take the enclitic **ene**, and also known that reduplication expresses some kind of plurality. But since Akkadian does not have the human – non-human distinction, and non-human nouns can be pluralized just as humans, they may have searched for a way to express plurality on non-humans, at least in cases where it was important to mark plurality. It was a logical step to use reduplication as a marker of plurality, and example (50) where the first NP is reduplicated and the second NP is pluralized by **ene** suggests that they found these two interchangeable.\(^69\) Although the reduplication for plurality is most frequently used for non-human nouns (see 3.4.2 below), it seems that sometimes it was acceptable for human nouns, too.\(^70\)

\(^69\) For other effects of Akkadian on Sumerian plurals see Sallaberger 2011: 350.

\(^70\) Example (49) is surprising since it comes from the OAkk period, and otherwise this phenomenon seems to manifest itself only later, most clearly in the OB period. The text, however, is broken and nor the copy (see Gelb – Kienast 1990), neither the tablet (CBS 13972, see item P227509 on CDLI) itself helps to clarify whether the **ene** is present or not. Hence it is possible that it is not the case of changing grammar but of wrong reconstruction.
3.4.1.1 Lu₂-lu₇

In the table above, the construction lu₂-lu₇ (or lu₂-ulu₃) 'people, humanity’ is counted among the reduplicated constructions, as it is tagged as such in the ETCSRI corpus. It is assumed that this writing renders the repetition of the phonological sequence /lu/ and can be understood as the reduplication of lu₂. This lexeme, however, has certain special features that make its status as a reduplicated noun doubtful. It is a relatively frequent item (among reduplicated constructions), it has four attestations in the ETCSRI and 81 in the ETCSL corpus, but not one of these are pluralized with ene, although it is obviously a human noun. Certain attestations seem not to express plurality at all:

(54) Proverbs: collection 1: 56

šag-ša₂ lu₂-lu₇-me-en igi-ša₂ lu₂ nu-me-en
šag=šu=’a lu-lu=men igi=šu=’a lu nu-men
heart=1.SG.POSS=L1 person.RDP=COP.2.SG eye=1.SG.POSS=L1 person NEG-COP

„In my heart you are a human being, but in my eyes you are not a man.”

In this sentence lu₂-lu₇ is seemingly synonymic with lu₂, as it is shown by the singular form of the copula. In other cases, however it has a plural or greater plural meaning:

(55) E-ana-tum 7a: iii 2 – iii 5

kur-kur-še₃ a₂ d nin-ğir₂-su₂-ka-ta lu₂-lu₇
kur-kur=še a ninğirsuk=ak=ta lu-lu
land.RDP=TERM arm DN=GEN=ABL person.RDP

gaba mu-ru-#da nu-tuku

gaba m-n-Ø-ri-ed-’a-Ø nu-tuku
chest VEN-3.SG.H-L2.SYN-to impose-PF-SUB=ABS NEG-to have

“(E-ana-tum) has no opponent throughout all lands by the might of Ninğirsu.”

In this case a literal translation would go like this: „Throughout all lands by the might of Ninğirsu (E-ana-tum) does not have people confronting him.

lu₂-lu₇ is also frequently prefixed by the ‘collective’ marker nam-. This construct is actually more frequent than the basic form.

(56) En-metena 1: vi 26 – vi 29

nam-lu₂-lu₇ iri-na šu u₃-na-zig₃
nam-lu-lu=e iri=ani=’a šu=Ø u-n-a-n-zig-Ø
Having revolted against him in his city, may the people kill him in the middle of his city!"  
In this sentence nam-lu₂-lu₇ obviously does not mean 'humanity', thus a greater plural reading is not adequate. In other sentences, however, this translation seems to be in place:  

(57) Lugal-zage-si 1: iii 24- iii 26

nam-lu₂-lu₇  u₂-šim-gin₇  šu
nam-lu-lu=e  ušim=gin  šu
coll-person.rdp=l3.nh  greenery=equ  hand

dağal  ha-mu-dab₆-dug₄

dağal=Ø  h-m-y-da-b-dug=Ø

to be wide=abs  mod1-ven-1.sg-com-3.sg.nh.l3-to speak-3.sg.s

“may humanity become as ample as the grass”

We have seen three characteristics of this lexeme:
- It never combines with ene.
- It may have a singular or plural meaning.
- It combines with nam- regularly.

These characteristics make lu₂-lu₇ different from other reduplicated nouns both morphologically and semantically: regular reduplicated forms of human nouns almost always combine with ene, always have some type of plural meaning, and never (to my knowledge) combine with the 'collective' prefix nam-. My suggestion is that the reason for this difference is that lu₂-lu₇ is not a reduplicative construct, but the frozen form of a former reduplicative construct. It seems probable that the origin of lu₂-lu₇ is indeed the reduplicated form of lu₂, but its elements had lost their independency due time, and it has

---

71 Cf. the corresponding headword of ePSD.
72 It must be noted that the preceding sentence of the texts mentions kur 'lands' and not kur-kur 'all the lands' which makes the 'humanity' reading a bit weaker.
been reanalyzed as a non-reduplicated, bisyllabic word with its own meaning. This meaning is only partially overlapping with the values of reduplicated constructions.

3.4.1.2 Frequency distribution of reduplicated human nouns

Reduplicated human nouns in different corpora

<table>
<thead>
<tr>
<th>lexeme</th>
<th>ETCSRI</th>
<th>Gudea Cylinders</th>
<th>unadug</th>
<th>NSGU</th>
</tr>
</thead>
<tbody>
<tr>
<td>lu₂-lu₇</td>
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<td>0</td>
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</tr>
<tr>
<td>ugula-ugula</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>sağğa-sağğa</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>barag-barag</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>dumu-dumu</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4: reduplicated human nouns in different corpora

It can be seen that the reduplication of human nouns is very strictly restricted to the narrative texts, especially royal inscriptions within the investigated corpora. This distribution underlines the non-compulsory and stylistic nature of reduplication, since the prosy style of legal text and economic letters maximally avoid these constructions. It is interesting to note that Gudea Cylinders do not contain reduplicated forms of human nouns, although there are many attestations of these in the Old Babylonian literary text corpus. Even though reduplicated stative verbs in an attributive role are more common in the Gudea Cylinders they almost always modify non-human nouns; for instance the construct gal-gal modifies a human noun (dīgir) only once in the whole text. Thus it can be said that in the register of the Gudea Cylinders the standard way to pluralize human nouns is the enclitic ene, and practically no other means are used.

On the other side, royal inscriptions contain several reduplicated nouns (mostly also pluralized by ene), although the non-reduplicated nouns with ene are still much more frequent. In the other two corpora, noun reduplication is almost nonexistent (see also table 5).

\[\text{\footnotesize Data revised on 08.22.2012.}\]
3.4.2 Reduplication of non-human nouns

There are more lexemes in the non-human class which have a reduplicated form (see appendix 1). The most frequent such lexeme is kur '(foreign) land’, and the reduplicated form is most frequently translated as ‘all the foreign lands’. There are, however, a significant number of other non-human nouns that can be reduplicated, although most examples come from the OB period. Consider the following examples:

(58) E-anatum 4: ii 7-10

\[
\text{ki-sur-ra} \quad \text{gu}_2\text{-gu}_2 \quad \text{ğir}_2\text{-su}_2^\text{ki-ka}
\]

kisura gu-gu ğirsu\(^{ki}=\text{ak}='a\)

border side.RDP ğirsu=GEN=L1

“in the territory around (lit. sides) of Girsu”

Repeated in En-metana 1 (1.9.5.1) iv 7.

(59) E-anatum 5: iv 23-24

\[
\text{kur-kur-}\text{re}_2 \quad \text{sağ} \quad \text{e-da}_5\text{-sag}_3
\]

kur-kur=\(e\) sağ=Ø e-da-b-sag-Ø

land.rdp=erg sağ=abs fin-com-3sg.nh.ag-beat-3.sg.obj

“all the foreign lands trembled before him (Eanatum)”

(60) En-anatum I 2: iii 7-8

\[
\text{e}_2\text{-an-na} \quad \text{kur-kur-ra} \quad \text{mu-na-dirig}
\]

Eana=Ø kur-kur=’a m-n-a-n-dirig=Ø

TN=abs land.rdp=\(l2\)-nh ven-3.sg.h-dat-3.sg.h.a-to exceed-3.sg.p

“He made the Eana bigger than the mountains’ (my translation)”

(61) Irikagina 1: xi 23

\[
\text{kur-kur} \quad \text{e-na-ha-\text{lam}}
\]

kur.kur=Ø i-n-a-halam=Ø

land.RDP=ABS VEN-3.SG-DAT-destroy-3SG.OBJ

“he destroyed all foreign lands for him (Ningirsu)”

(62) En-metena 12: vi 2

\[
\text{e}_2 \quad \text{me-lem}_4\text{-bi} \quad \text{kur-kur-ra} \quad \text{a-dul}_5
\]

65
“the temple whose fearsome radiance covers all the lands”

(63) Ġiša-kidu 2: i 10
gaba-ğal$_2$ nu-gi$_4$ kur-kur-ra-ke$_4$
gabağal nu-gi kur-kur=ak=e
carriot front guard NEG-turn land.rdp=GEN=ERG

“the mighty one who has no rival in the foreign lands”

(64) Lugal-SILAsi 1: i
an lugal kur-kur
an lugal kur-kur=ak
DN king land.rdp=GEN

“An, king of all the lands”

(65) Lugal-zagesi 1: i 44-45
kur-kur ġiri$_3$-na e-ni-sig$_{10}$-ga-a
kur.kur=Ø ġiri=ani=’a i-ni-n-sig-Ø-’a
land.RDPL foot=3SG.POSS=L1 FIN-LOC-3SG.AG-place-3SG.OBJ-SUB

“he put all the lands to his feet”

Cf. Lugal-zagesi 1: ii 17. Obviously in many cases kur-kur stands for the people of the foreign lands (by metonymy), and it may be part of the explanation of its frequent reduplicated use, cf. also (66).

(66) En-metena 1: iii 1
kur-kur e-ma-huğ
kur.kur=Ø i-m-ba-n-huğ-Ø
land.RDPL=ABS FIN-VEN-MID-3SG.AG-hire-3SG.OBJ

“he hired (people of) foreign lands”

(67) Gudea Cyl. A: xi 14-15
du$_6$-du$_6$ ki a nu-ed$_3$-da
The water will rise for you to heights never reached by the water before.”

(68) Lugalbanda in the mountain cave: 412-413

“they enter into house after house, they peer into street after street”

(69) CST 41: 5

“on the day of the festival of the god of the oxen”

(70) MVN 8 184: 3

“Idi-Banda, official of the sheep.”

(71) Šulgi B: 215

“Idi-Banda, official of the sheep.”
I= ERG  language=3.SG.H.Poss=ABL  word.RDP

kilib-ba-ne₂  si  mu-un-na-an-sa₂-e
kilib-‘a=ani=e  si=Ø  m-n-a-b-sa-en
to  be  total- horn=ABS  VEN-3.SG.H.DAT-3.SG.HNP-to  equal-
PST. PTC = 3.SG.H.Poss=NH.DAT  I.SG.HA\textsuperscript{74}

“I can order every word of his whole language.” – \textit{mt}

(72) HLC 2: r iii 10’
maš₂  x  iri-iri-ka
maš  x  iri-iri=ak=‘a
goat  x  city.RDP=GEN=L1

(after a list of goats) “… goats from different cities” – \textit{mt}

(73) Letter from Šarrum-bāni to Šu-Suen about keeping the Martu at bay: 36
me-en-de₃  iri-iri  en-nu-uḡ₃  nu-mu-da-ak-en-de₃-en
menden=e  iri-iri  ennuḡ=Ø  n-m-da-ak-enden
we=ERG  city.RDP  guard=ABS  NEG-VEN-COM-to do-1.PL.H.A

“we are unable to guard all the cities”

(74) The home of the fish 1
ambar  id₂-da  gu₃-gu₃  hul-bi  de₂-de₂
ambar  id=‘a  gu-gu  hul-bi=Ø  de-de-Ø
marsh  river=L1  voice.RDP  to  be  to  pour.RDP- evil=ADV=ABS  PRS.PTC

“The one who utters its sinister cry in the marshes and rivers”

It can be seen that in the 3rd millenium there is almost clear-cut symmetrical formal
distribution between human and non-human nouns: human nouns occur reduplicated with
\textit{ene}, and – as it is expected – non-human nouns occur only in the reduplicated form
without \textit{ene}. The most important question is the difference in meaning of this three forms,
and the factors (e.g. lexical semantics) that may or may not influence them.

\textsuperscript{74} The human FPP in the original is probably a scribal error.
As we could see above, the most frequently suggested function of noun reduplication is ‘collective’, or a totality meaning, which is called greater plural here, as a reference to all possible entities or the most significant group named by the noun. We could also see that as Jagersma (2010) has aptly shown, this meaning is probable in certain cases, but implausible in others, and these examples can be interpreted as distributives.

It is also an important question whether reduplication has the same range of meanings for humans and non-humans. It is a relevant question because human nouns have a more regular way of marking plurality, the enclitic ene, thus it is logical to assume that reduplication has an additional meaning element. On the other hand, non-human nouns do not have this possibility, neither the marking by pronominal affixes is available for them. Thus it cannot be excluded a priori that for non-human nouns, reduplication is an optional plural marker. But, of course, it is not necessarily true: it may be the case that there is no way to mark general plurality for non-human nouns, only more specific cases; individual examples in different contexts has to be investigated to answer this question.

The two aformentioned values, greater plural and distributive are well attested. Distributive is not among the frequently mentioned values of reduplication, but it is the most plausible interpretation of certain examples. Consider example (72): a greater plural reading like “goats from every city” would be definately wrong here, since there are only a number of cities on the list, obviously not all of them; a spatial distributive reading makes much more sense here. An interesting example is (66) where the standard translation of kur-kur ’all the lands’ is not accepta: it may be an ellipsis or a personification, but even with a reconstructed lu₂ ’people’ or erin₂ ’troop’, a greater plural is questionable, since it is improbable that the enemy hired mercenaries from all lands; a distributive interpretation seems more plausible here, too.

In other contexts, of course, the greater plural interpretation of kur-kur is acceptable, consider examples (59) to (65). The reduplicated form of kur is of special interest, because it is the most frequent reduplicated noun in every time period of Sumerian except for the OB (see table 6 below). I do not concur with Jagersma (2010), however, in that kur-kur expresses a plurality that is automatically distributive. More precisely, it is true that the plurality of lands is distributive by nature, but this holds to many other physical objects, since these cannot be present at the same point of space. In the case of kur-kur, the question is the feature made salient by reduplication. If the greater plural reading is correct, then the most salient feature is totality, which entails distributivity but
not emphasizes it; additionally this is not a special feature of kur-kur, but of any noun denoting to object with significant extension or size.

The function of reduplication is more problematic in other sentences that allow both greater plural and distributive interpretation. Consider (68): the translation suggests a distributive meaning, but another interpretation is plausible, too: “they enter into every house, they peer into every street”. The same can be said about example (71): inim-inim kilib-ba-ni may refer to “every word of the whole language” or “different expressions in the whole language”, both makes sense in the context. Without the clarifying force of the context it is almost impossible to specify the exact intended meaning of reduplication in these sentences.

Even more complicated is the case of examples (67), (69), (70), and (74). In these sentences nor distributive, neither greater plural is necessary, or they are even impossible. It is very improbable that (67) speaks about ‘all heights’, and (69) about ‘all oxen’. In (70), the greater plural reading is excluded, since the official is obviously not in control of ’all sheep(flocks)’; similarly, (74) cannot be about ‘all cries’. The same problems arise with a distributive reading: it does not fit these context, or at least provides highly questionable translations.

A possible answer to this problem lies in the diachronic semantics of reduplication. It can be seen that there is a diachronic shift in the lexemes affected by reduplication: in ED III most nouns are human, but from Lagaš II on this trend turns, and more and more non-human nouns are reduplicated accompanied by a decrease in human noun reduplication. This is a relevant change since as it was mentioned before, non-human nouns cannot be pluralized by ene. We also know that throughout the history of grammatical elements, semantic bleaching is frequently observable.\(^75\) In the case of a greater plural or collective marker it may lead to a more general meaning, that indicates only the plurality of entities, that is, a ’simple’ plural.\(^76\) Since the rule that non-human nouns cannot take ene has not been violated even in OB texts, it is possible that another way to emphasize plurality was to drop the special meaning elements of reduplication, and use it as a plural marker for non-humans. This interpretation explains the examples in question above, and also accounts for the greater number of (mostly non-human) noun reduplications of the OB period, where this semantic process may have culminated. The

\(^75\) Cf. Heine-Kuteva 2002: 2.

\(^76\) See Heine-Kuteva 2002: 36, for examples of all > plural grammaticalization.
process, however, probably started in Ur III, or even in Lagaš II, since an increase of non-human noun reduplications can be observed from this period onwards (see table 6 and 8). It must be emphasized that this does not mean that reduplication became a regular plural marker. Its attestations are too scarce and sporadic to see it as an inflectional marker. The change only took place in the semantic part of the construction, leading to a more general meaning, and a somewhat greater frequency. These are parallel changes which intensify each other.\[77\]

The following table summarizes the frequency distribution of non-human nouns in different registers:

<table>
<thead>
<tr>
<th>lexeme</th>
<th>ETCSRI[78]</th>
<th>Gudea Cylinders</th>
<th>unadug</th>
<th>NSGU</th>
</tr>
</thead>
<tbody>
<tr>
<td>kur-kur</td>
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<td>0</td>
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<td>šu-šu</td>
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<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>mada-mada</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>me-me</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
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<td>du₆-du₆</td>
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<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>izi-izi</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 5: non-human reduplicated nouns in different corpora

kur-kur constitutes the bulk of non-human reduplicated nouns. There is no great variety in the use of reduplication in the third millennium in these corpora: royal inscriptions contain four types, while Gudea Cylinders has five different lexemes reduplicated, and only one is found in the unadug texts.

3.4.3 The productivity of noun reduplication

The literature does not have too much to say about the productivity of noun reduplication. Jagersma notes that the productivity of this construction decreased with time (see section 3.2.5 above), but both a theoretical basis and a quantitative analysis is needed to measure the changes in productivity of noun reduplication.

\[77\] For the role of frequency in grammaticalization, see Bybee-Perkins-Pagliuca 1994.

\[78\] data revised on 08.22.2012.
The most applicable model of productivity we can use here is that of Bybee (2010).\footnote{For the application of this method on derivational morphemes, see also Tanos 2012. Another method applicable to corpora is that of Baayen (2001), which relies on hapax frequency.} In this framework, productivity is measured by type-frequency, i.e. the number of lexemes affected by the investigated grammatical construction or item.

Since there is no way gather all reduplicated forms, two sets of data is used and combined here: the reduplicated nouns of the ETCSRI corpus, and a combined database of ePSD and ETCSL: in this, the most frequent nouns of ETCSL\footnote{The list is taken from Ebeling 2010.} are studied, and all reduplicated attestations are collected from the ePSD database. (For the table with all results, see appendix 1). Since the different databases are partly overlapping, all data that could have counted multiple times have been checked and used only once. The list does not contain items for which the time period cannot be identified.

The most important point in the analysis of the change of productivity is the diachronic aspect, hence all forms are followed throughout time.

<table>
<thead>
<tr>
<th>lexeme</th>
<th>ED III</th>
<th>Oakk</th>
<th>Lagaš II</th>
<th>Ur III</th>
<th>OB</th>
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<tbody>
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<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>me</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>du₆</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td>inim</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>17</td>
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<tr>
<td>e₂</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>8</td>
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<tr>
<td>lu₂</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>en</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>a</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>6</td>
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<tr>
<td>iri</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
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<td></td>
<td>nam</td>
<td>ki</td>
<td>sağ</td>
<td>ud</td>
<td>lugal</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>10/65</td>
<td>5/10</td>
<td>6/18</td>
<td>15/40</td>
<td>22/126</td>
</tr>
</tbody>
</table>

Table 6: The diachronic distribution of reduplicated nouns

This table reveals that the absolute token frequency of reduplicated lexemes shows a curve: in the OAkk and Lagaš II periods a decreasing frequency can be seen followed by a significant increase in the Ur III, and OB periods. If we accept type frequency as a marker of productivity, then we can partly agree with Jagersma: after the ED III period the productivity of reduplication decreased. On the other hand, this construction was reintroduced in the Ur III period, and reached its peak productivity in the OB period.\(^{81}\)

It must be noted, however, that looking at the data from the viewpoint of relative frequency (texts words per the number of words in the corpus of the given period (N)) we get a different picture:

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\(^{81}\) It must not be forgotten, however, that different corpora involve different registers: the Ur III corpus, for instance, contains much more economic texts than the other ones, while the OB corpus mostly consists of narrative texts.
Table 7: The size of corpora and the ratio of reduplicated nouns

<table>
<thead>
<tr>
<th></th>
<th>ED III</th>
<th>OAkk</th>
<th>Lagaš II</th>
<th>Ur III</th>
<th>OB</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N)number of words</td>
<td>120.000</td>
<td>46.000</td>
<td>8.100</td>
<td>2.620.000</td>
<td>166.000</td>
</tr>
<tr>
<td>text words/N</td>
<td>0.0083%</td>
<td>0.0108%</td>
<td>0.0740%</td>
<td>0.0005%</td>
<td>0.0132%</td>
</tr>
</tbody>
</table>

Following this table the order would be Lagaš II > OB > OAkk > ED III > Ur III. This very distorted picture is mostly the result of the vast differences among the size of the corpora. The biggest corpus (Ur III) is more than three hundred times bigger than the smallest (Lagaš II) which has a profound effect on the results. Thus, in this case I suggest to use absolute frequency as a measurement of productivity. The two tables agree in that reduplication was in active use in the OB period, but it is also interesting to look at the range of lexemes reduplicated in each period. Table 8 shows the (type) overlaps of noun reduplication in the different periods:

Table 8: overlapping of reduplicated nouns among different periods

<table>
<thead>
<tr>
<th></th>
<th>OAkk</th>
<th>Lagaš II</th>
<th>Ur III</th>
<th>OB</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED III</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>OAkk</td>
<td></td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Lagaš II</td>
<td></td>
<td></td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Ur III</td>
<td></td>
<td></td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>OB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Three lexemes, kur, dumu, and šu are reduplicated in every period. The only data standing out is the overlap between the Ur III and the OB period. It seems that beyond the three most frequently reduplicated lexemes, from the Ur III period on, a new range of lexemes have been reduplicated, that is, the scope of this construction shifted. While in the ED III texts many reduplications affect profession names, and only a few non-human reduplicated nouns can be found, in the Ur III and especially in the OB period this tendency turns, and the non-human nouns are more frequently reduplicated. This is in

82 Number of words in the ED III, OAkk, Ur III and OB periods are from Streck 2010; Lagaš II is counted from the ETCSRI corpus (data revised: 10.01.2012) and the estimated number of words in the Gudea Cylinders.

83 Although it can be seen as early as Lagaš II cf. the frequency data of reduplicated noun and non-human nouns in the Gudea Cylinders.
line with the assumption in section 3.4.2 that reduplication shifted towards a non-compulsory plural marker status due to semantic bleaching.

3.5. Didli

3.5.1 General remarks

The word didli is also a marker of quantities of some kind. Before a thorough investigation of its syntactic and functional characteristics it cannot be decided whether it’s part of the number system or not. The function of didli is more or less clear. Quoting Edzard:

“dedli indicates a detailed plurality: kišib-dedli “the individual sealed documents”, bàd-dedli-gal-gal “the individual big fortresses”. Note: dedli is closer in rank to the substantive than the regular adjective. dedli may be followed by [(e)ne]: lú-dedli-ne “the individual persons”.’’ (Edzard 2003: 31)

The standard translations of didli emphasize that this element underlines the individuality or – in Acquaviva’a terms – the identity of the entities referred to, that is, their separate nature. This means that didli does not function as a simple plural marker, an additional grammatical function is added. We could see that expressing the distinctiveness of entities in space can be expressed by noun reduplication for spatial distributives. The question emerges: does didli serve the same function or something else? And if it serves as a marker of the same category is there any difference between them?

Two answer these questions we have to investigate the syntactic and morphological environment in which didli appears, its cooccurrence with other items of (and items outside of) the number system. It is also important to describe its function as precisely as possible.

3.5.2. Syntax, distribution and function

Consider the following examples:

(75) Ontario 357: r 4.

\[
\begin{array}{ccc}
gi & zig3-ga & \text{didli} \\
gi & ziga & \text{didli} \\
\text{reed} & \text{expenditure} & \text{several} \\
\end{array}
\]

“various disbursements of reed” (as consummation of different reed assignments for different people) -\textit{mt}
(76) Ontario 330: o 2
zi₃  gu₂-na  eš₃  didli
zi  guna  eš  didli=e
flour  tax  sanctuary  several=DAT.NH
“flour from the tax for various sanctuaries” -mt

(77) TCS 1 10: o 5
guda₂  eš₃  didli-ke₄-ne
guda  eš  didli=ak=ene=e
guda-priest  sanctuary  several=GEN=PLUR=ERG
“the guda-priest of each sanctuary”

(78) TCS 1, 360, rev 7.
mu  didli  ga-an-na-da-ab₃-sa₂
mu  didli=Ø  ga-n-a-da-b-sa-en
name  several=ABS  MOD-3.H.SG-DAT-COM-3.SG.NH.O-balance-1.SG.A
“I will balance for him the individual accounts” (lit: each name) (i.e. each account)

3  udu  kišib  didli  bi-ze₂-ze₂
3  udu  kišib  didli  bizeze=ak
3  sheep  seal  several  PN=GEN
“166 sheep (for?) the various accounts of Bizeze”

(80) NSGU 209: 35-37
erin₂-bi  20-bi  še-bi  dug₄
erin=bi  20=bi  še=bi  dug-Ø
erin=DEM  20=DEM  barley=3.PL.N  to speak=PRS.PTC
  H.POSS

us₂-sa  didli  nu-ub-ba-a
us-'a didli nu-m-ba-'a

to follow-SUB several NEG-VEN-to give=SUB

“these workers, these 20, did not get the barley (that they should have got) respectively” -mt

(81) Ontario 458: i 7
kaš₄ didli-me
kaš didli=meš
messenger several=3.PL.COP
[beer, flour and oil] “(for) the several messengers (respectively)”

(82) TCS 1, 220, obv. 4
kaš₄ didli-me
kaš didli=meš
messenger several=3.PL.COP
[beer and flour] “(for) the several messengers”

(83) ASJ 13 (Maekawa 1991), 234: 76 (r ii 11)
eš₃ didli-me-eš₂
eš didli=meš
sanctuary several=3.PL.COP
“several sanctuaries”

(84) TCS 1, 110, obv. 4
mu didli-bi-še₃
mu didli=bi=še
name several=DEM=TERM
“(about giving wool-rations) ’to each of the men (lit. names)”

(85) AAS 17: 5
lu₂ didli dab₂-dab₅-ba-me
lu didli dab-dab'=a=meš
man several take.\text{RDP}=\text{SUB}=3.\text{PL}.\text{COP}

“(after the list of four people, and the quantities they got)
'the people got these rations per head’”

(86) VS 27, 57: o ii 2
\text{maš-da-\#re-a} didli-\#am_{6}
mašdarea didli=am
payment several=3.\text{SG}.\text{COP}

“several payments”

(87) VS 25, 034 r ii 3
\text{siki-ba} lu_{2} didli-e-ne
sikiba lu didli=ene=ak
wool ration person several=\text{PL}=\text{GEN}

“wool rations of the different (ranked) people”

(88) BIN 3, 491: r ii 6
\text{kišib}_{3} lu_{2} didli-e-ne
kišib lu didli=ene=ak
seal person several=\text{PL}=\text{GEN}

“(after a long list of (seals of) people and commodities) ‘seals of
the different people’ (i.e. people with different jobs)”

(89) PDT 1, 26: i 3
\text{ki} sipad unu_{3} kurušda u_{3} lu_{2} didli-e-ne-ta
ki sipad unud kurušda u lu didli=ene=ta
from shepherd cowherd fattener and person several=\text{PL}=\text{ABL}

“from the shepherd, cowherd, fattener, and (other) different people”

(90) NATN 609: r 7.
gud si-ga didli-am_{3}
The syntax of didli seems to be clear: it occupies P2 in the nominal phrase, that is, the modifier position. As the examples above show it requires no genitive marker as do certain stative verbs in the modifier role, and can be embedded into a genitive construction in P3 as in example (77): gudaₚ₁ [ešₚ₁ didliₚ₂=akₚ₅]ₚ₃=eneₚ₄=ep₅. This example is not a case of
double pluralization since the enclitic ene in P4 refers to the guda priests while didli modifies the es sanctuaries.

Considering examples (75), (76), (78), (79), (83), (84), (86) and (90) it can be seen that didli is not restricted to the non-human class: in these examples the modified nouns include sanctuaries, animals, and even abstract nouns as accounts or payments.

The examples reveal that there are many environments in which didli occurs, that includes the followings: without further markers, with singular and plural forms of the copula, with =bi, with =ene, and before reduplicated verbs. The following table shows the temporal distribution of constructions:

<table>
<thead>
<tr>
<th></th>
<th>EDIII</th>
<th>UrIII</th>
<th>OB</th>
</tr>
</thead>
<tbody>
<tr>
<td>no further</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>markers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sing. cop.</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>plur. cop.</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>=bi</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>=ene</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>verbal redpl.</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

The distribution of different forms among registers is also interesting: in the third millennium virtually every occurrence of didli takes place in economic texts. No attestations in literary texts, or royal inscriptions are found and this suggests that this expression was part of colloquial Sumerian, or – more likely – the economic register. In the second millennium the very low number of attestations show more a limited distribution, too: we find a few royal inscriptions and few lexical texts containing didli. In royal inscriptions it exclusively occurs with the head nouns iri ’city’ and bad3 ’wall’. Probably to this period didli became an obsolete word used only highly restricted, formulaic contexts.

3.5.2.1 Didli with and without plural markers

84 didli occurs in other constructions as well, but those involve only added case markers and thus are not relevant to our analysis. There are very few examples of didli followed by a reduplicated noun, but since these are not head nouns that didli modifies, these sentences are also irrelevant for us.

85 Data received from ePSD, last revised: 10.01.2012.
The forms with singular (ex. 86, 90 and 91) and plural (ex. 81, 82, 83 and 92) form of the enclitic copula are in inverse proportion in the ED and the Ur III period: in ED the singular form (-am₆ in ED, -am₁ in UrIII) was much frequent (but still rare considering the total number of attestations in this period), in Ur III only a couple of instances can be found (three at all from Nippur and Umma), but forms with the plural copula (written –me or -me-eš₂) are positively frequent.

There are two factors to consider in discussing the distribution of singular and plural forms of the copula on didli. First, didli cannot refer to one entity, that is, it involves some kind of plurality inherently, as all types of distributive, collective etc. markers do. On this ground the plural copula seems the only logical choice. On the other hand, because in Sumerian non-humans do not trigger agreement, in the case of non-humans pluralized by didli, the singular form would be normal.

The constructions with the singular form of the copula often contain the word šag₄-dub as in (91) where this line closes a list of the quantities-names-occupations type. This is virtually the only questionable expression where singular copula is regularly used. All attestations come from the ED III period, and the meaning of the word is uncertain.⁸⁶

The situation is further complicated by the fact that many examples are with seemingly non-human head nouns, frequently eš₃ ’sanctuary’ as in ex. (83). It is obvious that the choice of the plural form of the copula is not strictly gender-dependent, and, what is more important here, that the presence of didli does not automatically trigger the use of the plural copula.

A possible explanation to this situation lies in the nature of these texts. Economic texts tend to be very brief, with abbreviations and different other techniques to minimalize the number of signs to write. It can be observed that many of the lines containing eš₃ didli with plural copula consist of a more complex construction with a human head noun (usually lu₂ or erin₂), as in ex. (92). Maybe the lines without these head nouns and with the plural copula are abbreviations of longer lines, and that is why the copula turns up in plural.

Somewhat similar problem arise around the cooccurrence of didli and ene. Two cases must be distinguished: when ene refers to the plurality of the same element which didli modifies (ex. 87 and 88), and when not (as in ex. 77). More interesting are the former

⁸⁶ But cf. AWAS 120: r xiv 19: ša₃-dub-didli-am₆ „Einzelne ša₃-dub-(ba) Arbeiter sind es” (Selz 1993: 667) which suggests a type of worker.
cases because they reveal distributional features of didli. First, there is a syntactic question, whether (87) and (88) are examples of the first type or not. Since didli modifies lu, and the enclitic element ene can mark the plurality of humans only, it also must refer to lu, so the syntactic structure look like the following: $\text{kıšib}_{P1} [\text{lu}_{P1} \text{didli}_{P2}=\text{ene}_{P4}]_{P3}=\text{ak}_{P5}$.

Actually all the examples of this type of didli+plural involve lu yielding lu didli=ene rather than didli=ene. This construction almost always occurs at the end of a longer list of units consisting of quantities of commodities (barley, wool, beer etc.) names, and occupations. This would suggest a clear picture: didli, just as reduplication has a meaning outside the strict number system, and as such, requires the enclitic ene to mark plurality. The problem is that in many cases, ene does not occur, as in examples (93) and (94).

Most probably this can be explained again by the nature of economic texts. It can be seen that all types of these records, together with economic letters (see above) do not represent perfect grammar. It may be due to writing conventions that prefer briefness over precision, or even grammatical conventions that allow the omission of certain grammatical elements. Although it is almost impossible to answer this question, it can be said that didli is not interchangeable with ene, and the expression containing a human head and didli generally require the plural enclitic, even if it is not written every time.

3.5.3 The place of didli in the Sumerian number system

It can be observed that didli does not combine with reduplicated nouns. This is a very important point, since the assumed function of didli is identical, or at least near identical to of the values of noun reduplication: it expresses distributive. Distributive has two types as Mithun (1999) has shown: type and spatial distributive. The former refers to different entities, the latter to entities at different locations. It would be convenient to assume that reduplication stand for one of these, and didli for the other, but this assumption does not seem to work. We could see in the case of distributives that it is mostly the base word and the context that determines the possible or most plausible interpretation of a given example. In the case of didli, the deafult reading seems to be type-

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87 When didli modifies kıšib, it follows the noun immediately as in BIN 05 119, r i 10 etc.
88 Perfect, of course, is an elusive notion in this case. It is difficult to decide whether certain variants are ungrammatical or represent a version of Sumerian grammar that differs from our textbook-grammars, and is not known to us.
distributive, that is, the emphasis is on the different individual entities. The contexts of economic texts are much more limited than in literary texts: most examples include people (or profession names), animals or temples. It is the context of each sentence that can determine whether for instance in the case of animals decide whether livestock of different locations or simply several animals are referred to; in some cases the former interpretation is excluded since the entities are at from the same locations; in others, both readings are acceptable, and it is not excluded that even Sumerian readers had to decide the correct reading from their extra-linguistic knowledge.

Why, then, *didli* was in use instead of nominal reduplication. Multiple factors may have had their role in the explanation. First, the lack of attestations of *didli* in third millenium literature, and royal inscriptions suggests that it had a low value stylistically, while noun reduplication is relatively frequent in the narrative type of texts and hence may have been considered as more eloquent forms. Second, as Michalowski (2004: 31) pointed out, *didli* has a reduplicated origin itself: it is the contracted form of the reduplication of the word *dili* 'single'. If Sumerian speakers perceived the reduplicated nature of this element, they could use this inherently reduplicated form instead of noun reduplication; this choice is supported by the fact the combination of reduplicated items in P1 and P2 are virtually non-existent in Sumerian (cf. Attinger 1993: 161). This two factors, the stylistic value and the reduplicated origin of *didli* together may have been responsible for the complementary distribution of *didli* and reduplication in different genres.

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89 'One' as a numeral is a frequent source of grammaticalization, and shifts into the meaning 'together', among other meanings, in certain languages, cf. Heine-Kuteva 2002: 219-226. The form *didli* actually can be analysed as the result of the productive reduplication pattern introduced above: *dili-dili* is one.DISTR., that is, the distributive plural form of 'one'.
4. Verbal number

4.1 Introduction to verbal number

The category of number analysed above is nominal number, and its surrounding values. There is, however, another type of number category that differs greatly from nominal number, that is, verbal number. The most important difference between nominal and verbal number is that the former affects the semantics of nouns and the latter contributes to the semantics of verbs. In other words verbal number (VN henceforth)\textsuperscript{90} relates primarily to events, not to entities.

VN is not mere agreement i.e. nominal number marked on the verb, but it modifies the semantics of the verb in certain ways. It may modify the number, intensity, timespan etc. of events in one or the other way; in other words one or more of the next three dimensions must be affected: the number of participants, locations, or time (in a very broad sense). The fact that it is not agreement is proved by the plethora of examples where the plural verb does not agree in number with the corresponding nominal constituent.\textsuperscript{91}

VN is not to be confused with pronominal verbal marking. Even if a clause does not contain the corresponding NP, and the verb of the clause has plural marking, it is not necessarily verbal number, but may be pronominal marking of the number of a non-overt constituent on the verb which in other cases may be marked on one or another element of the noun phrase.

It follows from the points above that VN is maximally independent from nominal number and usually “there is no nominal source for the number specification, nothing for a copying rule to copy.” (Mithun 1988: 212) As it will be shown below, sometimes VN may entail nominal number, and vice versa: nominal number may entail VN; but it does not mean that the two phenomena are identical, or even stand in a strong correlation. It should be noted, however, that certain types of verbs (e.g. verbs of creation or destruction) cannot be understood in the pluralised form without the plurality of the affected participant (cf. Wood 2007: 62).

It is very important to note that verbal number is not an inflectional, but a derivative phenomenon, a fact that highlights some of its specific characteristics:

- It is not obligatory.

\textsuperscript{90} The abbreviation VeP will be used for verbal plurality, to avoid confusion with verb phrase (VP).

\textsuperscript{91} Cf. Mithun 1988: 218.
- It is not general.
- It has higher relevance relative to the semantics of the stem.\textsuperscript{92}
- While nominal number is more often marked on NPs higher on the animacy scale, verbal number more often pluralizes NPs of low animacy.\textsuperscript{93}
- Derivative processes are to create new lexical items. This means that the verbs modified by VN are new words with a new lexical meaning.

4.2 The meaning of verbal number

4.2.1 General characteristics of verbal plurality

4.2.1.1 Diagnosis

In many cases, especially with participant number (see 4.2.2 below), it is not easy to decide which type of verbal number is involved. We have to distinguish verbal number from agreement properties. The main factors separating the two are the following:
- Ergativity: agreement may operate on a nominative-accusative or on an ergative basis, but verbal number of participant type always operates on ergative basis, that is it always mark the participant in the absolutive case (i.e. the patient).

- Marking of different values: a verb may appear in plural even if the agreement pattern requires singular agreement. In some languages number marking is restricted to animates, but verbs with verbal number will take their plural form if the main participant (patient) is plural.

- Differences of availability: in some languages verbal/nominal number have more possible values than the other one. Furthermore in forms with no agreement (participles, infinitives) verbal number may occur. Sporadically dual verbal number can be seen. In certain cases ‘plural’ is not the most appropriate term, ‘several’ would be more precise. In some languages there is an opposition between ‘one or two’ and ‘three or more’. The indeterminacy of values suggests that it is part of the meaning of the verb.

\textsuperscript{92} Cf. Bybee 1985: 12ff.
\textsuperscript{93} Cf Corbett 2000: 257; Wood 2007: 44.
- Possible development towards nominal number: there are boundary cases, when it is not easy to decide whether we are dealing with nominal or verbal number. This suggests that verbal number may develop into nominal number (agreement). E.g., a language may have irregular forms for plural verbs (which suggests it’s a deviational category), but agree in number with the absolutive participant (which suggests, it is agreement).

4.2.1.2 Items involved in the verbal number system

Verbal number is usually marked on verbs, however, it may be marked by other lexical means (e.g., ‘many times’). On the other hand nominal number shows greater variability. There are languages without nominal number, and there are languages in which every noun is marked for number. Animacy hierarchy may play a major role in the system of nominal marking: in many languages, the ‘lower’ end of the animacy scale is not marked for number.

In opposition with nominal number verbal number usually affects a small number of verbs. It is not entirely clear whether there are general tendencies to determine which verbs are involved in VeP. Generally it can be said that it is marked if the number of participants or the timespan (or repetition) of the event deeply affects the meaning of the verb. There is a general trend for certain verbs to show stem alternation for pluractionality, e.g., sit, stand, lie, go, walk, run, fly, take, pick up, carry, throw (cf. 4.2.4 below).

4.2.1.3 Formal expressions of pluractionality

Verbal plurality is expressed (at least partly) by reduplication in many languages including most North American languages (Mithun 1991), Chadic languages (Newman 1990), Afrikaans (Botha 1988) and also in Sumerian (Edzard 1971, 1972; Thomsen 2001; Edzard 2003; Jagersma 2010 etc.). Reduplication is used in other lexical categories (nouns and adjectives) as a marker of plurality, too.\(^94\)

Although reduplication may be the most iconic marker of VeP,\(^95\) there are many other ways to express this group of concepts: we find suffixes, prefixes, and also alternated stems among the markers of VeP (cf. Wood 2007, where she found that reduplication is frequent but not the most common of marking VeP cross-linguistically).

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\(^{94}\) Cf. Mithun 1988: 218. See also Lichtenberk 2008: 703.

\(^{95}\) For the notion of iconicity in linguistics see Langendonck 2007.
4.2.2 The two types of verbal plurality: event and participant plurals

There is no uniform terminology for the different possible meanings of VN. The terms used include 'intensive', 'frequentative', 'habitative', 'repetitive', 'iterative', 'continuative', 'usitative' etc.\(^{96}\) often without any clarification of the exact differences and/or overlaps in meaning. This may lead to a confusion, since many times different authors use the same term to different values of VeP.

Definitions include the following:

- Frequentative: „indicating frequent repetition” (Matthews 1997: 137.)\(^{97}\)
- Habitative (habitual): „… an event is construed as occurring on a more or less regular basis on different occasions.” (Cruse 2006: 79.)
- Iterative: „… an event, usually a punctual one, is construed as occurring a number of times in close succession on a particular occasion.” (Cruse 2006: 90.)

The 'plurality' (in the broadest sense of the term) of an event referred to by a verb may manifest in many different ways. These ways, however, have a sharp split along the multiplicity of events/acts themselves and the multiplicity of participants. In the former case the emphasis is on the fact that something happens more than one time or for a longer period of time. For instance biting can be seen as a singular event, and chewing a plural event. There is no need for more than one denture, but in the latter case we surely deal with multiplicity of bites on the same piece of material. The latter case (plurality of participants) would be exemplified by the lexical pair: kill – massacre. The former means the murder of one person, one patient; the latter implies the murder of many (probably at the same time, in the course of one event). In this case the most significant and arguably the logically primary fact is the multiplicity of people affected by the act: if there are no people, there is no massacre, only killing.

This two types of VN are distinguished under the name event number and participant number. It must be noted, however, that the two are not necessarily mutually exclusive, the same marker may stand for each. Sapir (1922) notes that in Takelma, a North American Indian language, verbal plurality (frequentative), marked by reduplication “… may have reference to the repetition of the act itself (iterative or usitative) or to the plurality of the transitive object or intransitive subject affected (distributive)” (quoted by Mithun 1988: 223.) The same marker may also stand for different values within event


\(^{97}\) See also Comrie 1976: 30-32.
plurality, as in Toqabaqita: „Although the continuative and the iterative are, in principle, two different aspects, in Toqabaqita they are not formally distinguished: the same formal means are used regardless of whether a situation is a continuing, extended one or an iterated/iterating one.” (Lichtenberk 2008: 702)

4.2.3 Event number

As we have said earlier, event plurality (henceforth EP) may mark a number of semantically different aspects/action qualities.
- the repetition of an event in time
- the repetition of an event in several places
- the continuity of an event in time
- the intensity of an act

The function of VN, however, may change due to time. Mithun, quoting Boas, shows an example in Kwakiutl where a purely distributive meaning shifted into plural (Mithun 1988: 223-224). This is a clear case of grammaticalization, the change of a derivative marker to an inflectional one. This may happen without the marker reaching the status of an inflectional marker with obligatoriness, generality and all the other criteria of inflection.

(95) naa aikee su  
I send the m
'I send them'

(96) naa a’aikee su  
I send.PL them
'I send them [several times/to several places etc.]'

4.2.4 Categories of event plurality

4.2.4.1 Event internal – event external

The subtypes of event plurality can be divided to event-internal and event external types (cf. Garrett 2001); this is the most basic semantic distinction of pluractionals (Wood 2007: 89). Event internal types express the plurality of an action within an event, i.e. the event

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98 For more examples see Mithun 1988: 228-231.
viewed as a whole and the repeated actions constitute subphases of the event. In event-external types a whole event is repeated again and again. This type is best exemplified with habitual plurals, where an event is repeated on a regular basis.

According to Lasersohn (1995) the basic difference between event-internal and event-external pluractionality is that the the former includes subphases which are of different type than the event itself: for example walking, an inherently plural action consist of steps which themselves do not count as walking. On the other hand – according to Lasersohn – event-external plurals involve the repetition of the same type of action as the pluractional verb. This differentiation is true in many, but not all cases. Wood (2007: 117-119 and *passim*) quotes examples where an event-internal plural consists of subphases of the same type as the pluractional itself. Wood also notes that „phases of event-internal pluractionals, if not the type of the base verb, are commonly diminutive or conative instances of the base verb, or indicate an extended activity phase of an achievement or accomplishment verb without its final boundary.”99 (Wood 2007: 118, cf. also p. 128)

There are certain verbs which typically express repetative events/actions, e.g. coughing, knocking etc. These are more likely to have event-internal interpretation in the plural form (Wood 2007: 89-90).

Event-external repetitions may allow for a distributive interpretation (but it’s not obligatory of course), while event internal repetitions most usually do not.

In certain languages (e.g. Yurok) there are special markers for event-internal or external pluractionals; in other languages (e.g. Chechen) the same marker may express both types of VeP (cf. Wood 2007: 78) – as we will see, Sumerian belongs to this second group.

### 4.2.4.2 Continuity

Pluralized verbs may express continuous or non-continuous actions or events. Continuous events are extended in time without separation; intermittent (non-continuous) events consist of act separated in time.100 The prototypical example of the first type is called continuous, other types of verbal plurality belongs to the second type (e.g. frequentative, habitual etc.). Event-internal pluractionals often can be seen as continuous, since the phases of the event follow each other very closely. Activity predicates may be continuous,

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99 For the different lexical aspect types see chapter 4.2.4.4.

100 Spatially separated actions are treated under the heading distributive.
intermittent, or – in the case of motion predicates – „multidirectional” which means „’move around’, ’move here or there’, or ’move back and forth’” (Wood 2007: 53).

4.2.4.3 Apect or Aktionsart?
It is debated in the literature whether verbal plurality expresses aspectual categories (cf. Corbett 2000), or Aktionsart (cf. Dressler 1968, Cusic 1981, Wood 2007). In this study I accept the view that VeP belongs to aktionsart,\(^{101}\) because of two reasons: as Wood (2007 11-12) states, aspect encodes the viewpoint of an event, and verbal plurality is independent of viewpoint. On the other side, since VeP involves some type of repetition of an event it is not compatible with any aspect that does not consider the internal constituency of an event (i.e. perfective); thus it may be considered as a more refined distinction than the „classic” perfective-imperfective opposition. Note, however, that many labels used here, as ’iterative’, ’habitual’ etc. are used as aspectual labels in the linguistic literature (e.g. Bybee – Perkins – Pagliuca 1994).

4.2.4.4 Lexical Aspect\(^{102}\) and verbal plurality
We have seen that there are many variables of verbal plurality. One of the most important factors of the interpretation of verbal plurality is its dependence on the semantics of the verb.\(^{103}\) Verbs have certain inherent properties according to their temporal constitution and the completedness of the event expressed by the verb: this phenomenon is called lexical aspect here. The traditional classification of lexical aspects distinguishes four classes of verbs later extended to five (cf. Cruse 2004, 2006):
- Activities: extended actions in time with no inherent boundary or accomplishing point.
- Achievements: instantaneous events which involve a change of state, e.g. to tear, to break etc.

\(^{101}\) The same view is expressed by Kiefer in his study on Hungarian aspect and Aktionsart (Kiefer 2006).

\(^{102}\) Terminology varies on this phenomenon (cf. Cruse 2004; Kiefer 2006; Boogaart– Janssen, 2007; Wood 2007). Some scholars call it Aktionsart, but as it could be seen above, I use this term for another group of phenomena.

\(^{103}\) The importance of this factor is recognized in many languages, see e.g. Lichtenberk on Toqabaqita: “The continuative–iterative distinction has to do with the type of state of affairs: continuativity applies to non-punctual situations, while iterativity applies to punctual events.” (Lichtenberk 2008: 703)
- States: constant conditions of entities, with no inherent time boundary or telicity.
- Semelfactives: instantaneous events without a change of state, e.g. to clap, to knock, to cough etc.
- Accomplishments: extended actions in time with inherent boundary or accomplishing point.

The repetition of semelfactive verbs necessarily results in an event-internal plural. In the case of achievements, the primary interpretation is event-internal also, but it’s not necessary: an achievement-type of event can happen again and again over a long period of time when it reaches its completion point (cf. Wood 2007: 75-76). This completion point also can be defined as a common goal or result of the repetitive actions (Wood 2007: 84).

The pluractionals of activities produce durative or extended (continuous) actions. These can be considered event-internal pluractionals, since there is no inherent boundaries in the actions which would divide it to separate events. The same cannot be said of accomplishments: since these inherently contain a boundary point their pluractionals must be interpreted as event-external repetition (cf. Wood 2007: 82-83).

“Accomplishments and certain achievements, when combined with an event-internal pluractional, produce a conative interpretation, often extended in time. In other words the pluractional pluralises some process which would normally lead to a completion, without pluralising the completion. (Wood 2007:130)

4.2.5 Participant plurals

In the case of participant plurality (PP) the focus is on the multiplicity of participants contributing to the event. It must be emphasized though, that PP is not agreement, neither similar to pronominal marking of plurality. In most cases the participant pluralised is the most affected one (or the „prototypically affected participant” (Wood 2007: 8)): the patient, i.e. the object of a transitive verb, or the subject of an intransitive verb. The pluralisation of the agent is much more rare than that of the patient. The pluralisation of agents is very rare, but if it occurs, it usually goes together with a distributive meaning (cf. Wood 2007: 63). Consider the following examples (cited from Crobett 2000: 247):

(96a) nee waakana ne-mec-um i?ii-ri eek i
1.SG chicken-SG 1.SG.SBJ-2.SG.OBJ-kill.SG-BENEF 2.SG
'I killed the chicken for you’
b) nee waakana-ari ne-mec-uq iʔii-ri eek i

1.SG chicken-PL 1.SG.SUBJ-2.SG.OBJ-kill.PL-BENEF 2.SG

'I killed the chickens for you'

The main difference between the two sentences is the number of dead chickens produced, but this type of verbal plurality focuses on the result of the act.

It must also be noted that according to certain linguists (e.g. Wood (2007)) participant plurality does not belong to verbal plurality proper, and the only cases of participant plurality is that of stem alternation (or more rarely some (other) type of derivation) according to the number of the patient of the verb. Wood calls these verbs plural-argument verbs (Wood 2007: 5-8). According to this approach the example (2b) above would be a case of event plurality, not participant plurality. This type of plurality does not exclude the possibility of multiple events, of course, but does not include or necessarily entail them either.

Most frequently participant number is marked by stem alternation or stem alternation and some type of affixation (cf. Wood 2007: 45.) It is worth noting that 'suppletive' would be the wrong term to use instead of 'stem alternation' here. Suppletive forms split along an inflectional category, thus if we accept that VN is derivational or in some cases more a lexical category, it is erroneous to call them suppletive forms. Stem alternations almost exclusively mark participant number, and very rarely event number.

Curiously, there is a very particular set of verbs which tends to express participant plurality by stem alternation. It can be described almost as a closed class of verbs cross-linguistically, (cf. Wood 2007: 46) with a couple of dozen members at most (cf. Durie 1986: 356). A couple of examples are:

(1) Ainu (Bybee 1985: 103): 'to be', 'to sit', 'to carry', 'to kill', 'to come', 'to go', 'to stand' (Veselinova, WALS)

(2) Sandawe (Cushitic) (Kießling 2002): go/walk, run, stay/dwell/live, stand, fall, sit, come, live/exist, die, talk, jump up

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104 Wood even defines pluactionals as „Closed-class constructions which apply to a verbal head and which produce an expression of event plurality.” (Wood 2007: 31, emphasis mine.)


106 WALS lists fifteen languages with this phenomenon: http://wals.info/feature/80. The list is not exhaustive, of course, since e.g. it does not mention Sandawe. It seems that in all the mentioned languages we find the same verbs, e.g. 'go' and 'throw' in Wari (Everett-Kern 1997: 330.); and 'come', 'leave/go' in Samoan (Hunkin 2009: 60).
transitives: carry/take, put, throw
(3) Koasati (Mithun 2001: 85) stand, sit, dwell, lie down, die, go, go about, come, run, clamber up, be lost, pick one/more up, put one/more in, release one/more, make noise once/more, hit once/more
(4) Georgian (Wood 2007): break, die, sit
(5) Yurok: to speak, to sit
(6) Southern Paiute (Wood 2007): to carry, to lie, to return, to sleep, to kill

As Wood (2007: 50) points out, typically three types of verbs show stem alternation according to participant number: motion verbs, position verbs, and verbs that „denote types of action which are significantly (visually and spatially) different when they involve multiple rather than single entities“. (Wood 2007: 50). I would add that speaking of cognitive/cultural salience would be more appropriate, since for example killing more than one individual is not necessarily makes a visual difference (it can happen at different places or on different occasions), but it is a more serious act on a cultural or moral level.

4.2.6 Verbal distributive

Verbal distributive is a controversial category in linguistic typology. Different linguists attribute different values to distributivity, and even its possible dimensions (space, time, participants) are subjects of debate. In appendix 3 a thorough general linguistic analysis of this phenomenon can be found with consideration of both the viewpoint typological and cognitive linguistics. Here it suffices to provide a brief summary of verbal distributive.

The term ‘distributive’ it is most commonly used in the context of nominal plurality.\(^{107}\) Still, there are a number of languages, mostly among the native languages of North America\(^{108}\) that have verbal distributive. Basically we distinguish between two types of verbal distributive: spatial distributive and participant distributive.\(^{109}\) Distributive, thus, expresses that an event happens in more than one separate location or to more than one separated individual. Separatedness is especially important in the case of participant

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\(^{107}\) Although distributive is actually not inflectional plurality, see Corbett 2000: 111-112.


\(^{109}\) Though some linguists mention temporal distributive as a third category, it seems to overlap fully with the 'simple' categories of VeP, iterative, frequentative and habitual, thus I do not handle it as a category of its own. For a detailed discussion of this problem see appendix 2.
distributives, because without it we have simple participant plurality. The different functions of the distributive may cooccur producing 'hybrid’ meanings (Tuggy 2003: 106). This, again, is acceptable from a cognitive point of view: prototypically when an action is taken in separate locations, there are more than one actors and objects acted upon; and it is not surprising if the acts also happen also at different moments in time.

4.2.7 The interpretation hierarchy of verbal plurality

Wood (2007: 135-138) suggests the following interpretation-hierarchy for ambiguous cases of verbal plurality: temporal plurality is the most common, spatial distributivity is the most restricted. If there are morphologically marked plural participants, participant plurality is the 'default’ interpretation. For a spatial interpretation the verb must be „location-prominent” (mainly motion, location and posture verbs). This interpretation also comes into play when temporal and participant interpretations are not possible. Additionally change-of-state predicates (achievements and accomplishments) are interpreted as argument plurals; stative predicated also produce argument plural interpretations. Event-external pluractionals with any marked plural argument encourage distributive interpretations, while event-internal pluractionals with a marked internal plural argument produces distributive interpretations.

4.2.8 The cognitive approach to verbal plurality

One of the most basic assumptions of cognitive linguistics is that meaning is conceptualisation, “[t]he process of meaning construction to which language contributes. It does so by providing access to rich encyclopaedic knowledge and by prompting for complex processes of conceptual integration.” (Evans 2007: 38.) It follows from this statement that language is highly affected by non-linguistic factors, such as our knowledge about the world and our perceptual experiences. Pluractionality is in close connection with the ways we group entities (which is the conceptualisation of certain types of perceptual experience), since it is a way we group (and individuate) events on the analogy of objects in the physical world. In the following I outline cognitive linguistics’ take on grouping events, mostly following Wood 2007 (chapter 3).

We can identify objects in space by their colours, shape, contours etc. And as objects have their boundaries in space, events have their boundaries in time. We can individuate or group into a unit a multitude of objects of a given type; and we can do the
same with events. Wood argues that here lies the crucial difference between event-internal and event-external plurals: “event-internal pluractional categories provide a construal which groups repeated occurrences (i.e. profiles the whole), where event-external pluractionals profile the individual occurrences at the expense of the higher-order whole.” (Wood 2007: 95.) In other words, the salience of individual instances determine the type of VeP we get.

Cognitive psychology suggests the following factors in order to determine whether we perceive a group of entities as individuals or as a whole: proximity, similarity, closure, continuation, common fate and familiarity. The first two items on the list are self-explanatory; closure is the tendency “to complete some closed form” (Wood 2007: 98.). We also have a tendency to group objects that are continuous, or „which move or [sic] together or change in parallel” i.e. have common fate (Wood 2007: 99.). Lastly it is more easy to identify something as one entity, if we are familiar with it, that is we have precursory knowledge about it.

Event perception is strongly similar to object perception. The following factors were found to be relevant in determining event grouping: perceptual continuity, common cause, familiarity and common goal. The lack of perceptual continuity (or a higher degree of perceptual discontinuity) creates segmentation points is events, in other words, it is easier to see two different events, if the actions have a temporal hiatus or “maximal change in physical features of the action” (Wood 2007: 102.) among them. If different actions or events can be attributed to the same cause or causer, they will more likely be grouped together as a unit. Series of events which are more predictable or familiar tend to be grouped together, as well. This, interestingly, is also true in the case of familiar participants, not only familiar actions. If the perceived goal of an action changes, we also tend to assume an event boundary and conceptualise the act as two different events.

These variables play an important role in the use and interpretation of event-internal and event-external pluractionals: events, that are grouped together are much more likely to be expressed by event-internal pluractionality, and distinct events by event-external pluractionality. It is important to emphasize, though, that these are not a set of necessary and sufficient conditions; some of them are more important (especially temporal continuity) and they describe prototypical instances, not hard rules.
5. Verbal number in Sumerian

5.1. Introduction

It is a known fact that Sumerian has the category of verbal number. We find relatively lots of verbal forms that show full reduplication (the repetition of the totality of phonological material) or stem alternation. These are the two formal characteristics related to VeP in Sumerology. It is widely accepted that stem alternation is the marker of participant plurality i.e. refers to the plurality (distributivity, etc.) of the intransitive subject or the object (for the cross-linguistic basis of this assumption see section 4.2.5). It is much more debated, however, what exact functions full reduplications serve.

Since no linguistically relevant in-depth research had ever been conducted to this problem, I restrict my accepted presuppositions to the minimum. My starting point is that a) there is VeP in Sumerian and b) full reduplication and stem alternation are related to VeP in some way. All other questions are left opened for the moment. There are three main questions to be answered:

- What exactly are the functions of full reduplication?
- What exactly are the functions of stem alternation?
- May there be any overlapping of the functions?

In the next two chapters (5.2 and 5.3) we will overlook stem alternation and full reduplication of verbs from the viewpoint of verbal plurality. The latter involves both active and stative verbs (traditionally labeled as adjectives in Sumerological literature).

5.2. Stem alternation

5.2.1 Earlier approaches to stem alternation

5.2.1.1 Steinkeller 1979

In his article Steinkeller assumed as a starting point that stem-alternation (suppletion in his terms) stands for the plurality of subject, and demonstrated that lah₄ is the plural of tum₂ (the present tense form of de₆) and it marks the plurality of the object instead of the subject. Steinkeller differentiates personals, animates and inanimates of the impersonal class. (For the question of this distribution, see 5.3.1 below.)
5.2.1.2 Thomsen 2001
Thomsen states that in choosing the singular or plural stem of a stem-alternating verb “[t]he crucial factor is the plurality of the absolutive subject or object. The plural verb is thus used in one-participant forms with plural subject and in two-participant forms with plural object, whereas the singular root is used when the absolutive subject or object is singular.” (131) Since Thomsen considers free reduplication as a marker of participant plurality, she suggests that “[t]he function of the plural verb is thus in general the same as that of the hamṭu reduplication” (132). She also states that reduplicated forms of plural stems may have intensive or iterative function (132). (Cf. section 5.4.5.)

5.2.1.3 Edzard 2003
Edzard has a short note on the general meaning distinction of stem-alternating verbs (74): “… some verbs distinguish individual bases for whether the ’subject’ (with intr. verbs) or ’object’ (with trans. verbs) is in the sg. or pl. If one person is registered to “stay, live” somewhere, tìl is used; if there are two or more, the verb will be se12.”

This section suggests, although does not say explicitly, that stem-alternation is confined to the human class. Since there is only one example in the section of the individual verbs (78), Edzard’s viewpoint on this issue is not entirely clear. (For the question of the relation between human and non-human participants and stem-alternation see section 5.3.1.)

5.2.1.4 Jagersma 2010
Jagersma has several important points concerning stem-alternating verbs. Some of these are known from linguistic literature, but others are new insights into the description of these verbs:
- Stem-alternation is not suppletion. It is not an inflectional split within paradigms,110 and Sumerian stem-alternating verbs show the same pronominal number-person markers as their regular counterparts, and can be reduplicated (315-316).
- Stem-alternating verbs follow an ergative pattern: their inherent plural meaning refers to the most affected participant, that is the subject of an intransitive verb, and the object of a transitive verb; in other words, it affects the number of the patient (316-318).

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110 See also Tanos 2008: 3, fn 2.
Although the plurality of the most affected participant may trigger the plural form of the verb, it does not always happen: Jagersma cites examples of the verb ǧen 'to go' where the plural subject does not trigger the plural form of the verb (318).

From the point above Jagersma concludes that stem-alternating verbs do not primarily refer to the plurality of a participant, but “they express the plurality of some action or state and, of course, multiple actions or states tend to involve multiple participants, but that is only a secondary implication” (318).  

5.3 Stem-alternating verbs in Sumerian

5.3.1 Humans and non-humans

Consider the following examples containing the singular and plural stems of 'to carry' de₆ – lah₄/₅:

(97) Gudea Cyl. A: i 27-29
nu₂-
thing

niğ₂
niğ

maš-ği₄-ke₄
mašği=ak=e

ma-ab-de₆-a-ţa₂
m-b-de-'a=ţu='a

šag₄-bi
šag=bi=Ø

deb₈

nu-y-zu-Ø

nu-zu-Ø

ama-ţu₁₀
ama=ţu

ma-mu-ţu₁₀
mamu=ţu=Ø

gä-na-de₆
gä-n-a-y-de-Ø

na

ga-na-de₆
ga-n-a-y-de-Ø

më-₄/₅

na

gal-gal-bi

lagab-ba

mi-ni-de₆

The meaning of what the nocturnal vision brought to me I do not understand, so I will take my dream to my mother”

(98) Gudea Cyl. A: xvi 6-7

111 This assumption poses two problems. First, the counterexamples may have other reasons than grammar: scribal conventions, scribal errors, or the repercussions of the difference between written and spoken Sumerian. The other problem is that it is not clear, how the counterexamples differ semantically from those with the plural form, in other words, how these mirror a singular going event as opposed to a plurality of going events.

112 For the correspondences of de₆ – tum₂₃ and lah₄/₅ see Meyer-Laurin 2010.
“he [Gudea] brought back great stones in the form of slabs”

The three examples above show three different cases of the usage of the singular stem de₆. In the first one, the object most probably shows general number, since it is difficult to tell how many „things” are brought to Gudea in his dream. The second case may be more unambiguos, since it is one and only one dream that the ruler talks about. The third case is interesting: the reduplicated stative verb gal-gal indicates the plurality of stone slabs, and this is also the object of the verb. The object, on the other side, is inanimate, and a singular stem is choosen.

If a number of human entities are referred to, the plural stem occurs:

(99) TCS 1 5: i 10 – 11

<table>
<thead>
<tr>
<th>lu₂</th>
<th>ba-ra-za</th>
<th>lu₂</th>
<th>ġir₂-suₖ⁶-me</th>
</tr>
</thead>
<tbody>
<tr>
<td>lu</td>
<td>baraza</td>
<td>lu</td>
<td>ġirsu=meš</td>
</tr>
<tr>
<td>person</td>
<td>PN</td>
<td>person</td>
<td>SN=COP.PLUR</td>
</tr>
</tbody>
</table>

HAR.SIₖ⁶ bi₂-in-la-ha ma-[…]ab
HARSI b-i-n-lah’a x
SN 3.SG.NH=L3-3.SG.H.A-to bring.PLUR-SUB x

“The men of Baraza are men of Ġirsu who were driven to HARSI”

The plurality of men is indicated by the plural copula, and accordingly, the verb takes its plural form. This is the expected distribution. Consider the next examples:

(100) TCS 1 129: r 11-12

<table>
<thead>
<tr>
<th>dub-ba-ni</th>
<th>šu</th>
<th>he₂-bar</th>
<th>im-lah₄</th>
</tr>
</thead>
<tbody>
<tr>
<td>dub=ani</td>
<td>šu=Ø</td>
<td>he-n-bar-Ø</td>
<td>m-lah</td>
</tr>
<tr>
<td>tablet=3.SG.PESS</td>
<td>hand=ABS</td>
<td>MOD-3.SG.PESS-CVVE-</td>
<td>VEN-to carry.PL</td>
</tr>
</tbody>
</table>

3.SG.P

“Let him release his tablet, so that he can drive the oxen.” – mt

The text is about gud ‘ox’ or oxen; there is no number reference in the text, as is expected with non-humans. The only basis to decide the number of animals affected is the plural verb form; but we would expect a singular form with non-human entities. This, and other examples
suggest, however, that this was not a strict restriction, consider example (5):

(101) Irikagina 1: xi 17 – 19

<table>
<thead>
<tr>
<th>sağğa</th>
<th>ĞAR</th>
<th>kiri₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>sağğa</td>
<td>ĞAR=ak=e</td>
<td>kiri</td>
</tr>
<tr>
<td>administrator</td>
<td>X=GEN=ERG</td>
<td>garden</td>
</tr>
</tbody>
</table>

ama | ukur₃-ra₂ | nu-lah₅ |
ama | uku=ak=ak=’a | nu-lah |
mother | poor=GEN=GEN=L1 | NEG-to carry.PL |

“ The temple administrator of ... did not pluck the garden of poor mothers” –mt

This is an interesting example for two reasons: it has a parallel sentence in Irikagina I (v 22 – vi 1), where we find a reduplicated verb (for verbal plurality); and the direct object kiri ’garden’, also a non-human entity.¹¹³

(102) NSGU 120a: 1-7

<table>
<thead>
<tr>
<th>22</th>
<th>udu-hi-a</th>
<th>10</th>
<th>uzud-maš₂-hi-a</th>
<th>nag-su⁴-a</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>udu-hia</td>
<td>10</td>
<td>mašuzudak-hia</td>
<td>Nagsu=’a</td>
</tr>
<tr>
<td>22</td>
<td>sheep-mixed</td>
<td>10</td>
<td>breed-goat-mixed</td>
<td>SN=L.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>e₂-ri-a</th>
<th>du₂-ru-na-bi</th>
<th>ṭa-šar-a-hi</th>
<th>aga-us₂</th>
<th>lugal</th>
</tr>
</thead>
<tbody>
<tr>
<td>eria</td>
<td>durun=’a-bi=Ø</td>
<td>Išarahi</td>
<td>agaus</td>
<td>lugal=ak</td>
</tr>
<tr>
<td>wasteland</td>
<td>to stand.PL-SUB-DEM=ABS</td>
<td>PN</td>
<td>soldier</td>
<td>king=GEN</td>
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</table>

<table>
<thead>
<tr>
<th>lu₂</th>
<th>nag-su⁴-ke₄</th>
<th>im-ta-an-ba-al</th>
</tr>
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<tbody>
<tr>
<td>lu</td>
<td>Nagsu=ak=e</td>
<td>m-ta-n-bal=Ø</td>
</tr>
<tr>
<td>person</td>
<td>SN=GEN=ERG</td>
<td>VEN-ABL-3.SG.H.A-to turn-3.SG.P</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ma²igi-a-a</th>
<th>ha-za-num₂</th>
<th>nag-su⁴-ke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Igiaya</td>
<td>hazanum</td>
<td>Nagsu=ak=e</td>
</tr>
<tr>
<td>PN</td>
<td>mayor</td>
<td>SN=GEN=ERG</td>
</tr>
</tbody>
</table>

¹¹³ The possibility of a simple scirbal error is excluded here, too, since the same phrase can be found in Irikagina 2: v 1’ – 3’.
igi ensi₂-ka-še₃ mu-lah₄
igi ensi=ak=še m-n-lah-Ø
eye ruler=GEN=TERM VEN-3.SG.H.A-to carry.PL-3.SG.P


The example above also reveals that non-human entities may trigger the plural stem of a stem alternating verb: in this case, the agent of the sentence is Igi-aya the mayor of Nagsu, and the object (the most effected participant that triggers stem alternation) is the herd of sheep and goats.

These examples suggest that stem alternation is compulsory when the most affected participant belongs to the human class, and non-compulsory, but still acceptable, when it is non-human. It must be noted, that it is not merely a shift in the boundaries of the human and non-human classes, as the examples including animals would suggest; example (101) shows that strictly non-animate entities may trigger stem-alternation.

In example (102) two plural verb can be found. The first verb of the text is durun ‘to sit.PL’, and the second is lah₄ ‘to carry.PL’ again triggered by a non-human participant. The following examples provides further attestations with other non-human and non-animate entities:

(103) Gudea Cyl. A: viii 8-9

udu-i³ gukkal maš₂ niga ensi-ke₄
udu’i gukkal maš niga ensi=ak=e
fat sheep fat-tailed sheep goat fattened ruler=GEN=ERG

'ešgar giš nu-zu kuš-ba mi-ni-durun₃(KU.KU)
ešgar giš=Ø nu-zu-Ø kuš=bi=’a m-ni-n-durun-Ø
female kid penis=ABS NEG-to know- skin=3.SG.NH.POS VEN-LOC-3.SG.H.A-to
PECT-ABS S=L¹ sit.PL-3.SG.P

“the ruler had a fattened sheep, a fat-tail sheep, and a grain-fed kid rest on hides of a virgin kid”

Plenty of examples of animals triggering the plural stem come from the verb uš₂ ‘to kill’ with the plural stem ug₅/⁷. Animals slaughtered are usually marked as ba-ug₇ (mid-to kill.pl), as in example (104):
"1 fattened sheep, 1 big fattened goat, 1 ewe, 2 lambs, 2 sucking lambs, 1 sucking female lamb, slaughtered on the sixth day."

Other stem-alternating verbs, as ere 'go.PL' and su.g 'to stand.PL' are found mostly with human subjects:

(105) NSGU 120b: 10

"They came to this complaint”

(106) Nik 1 14: i 1-i 7

"The came to this complaint”
Where, in the light of the observations above, can stem alternation be placed on the inflection-derivation continuum? Obviously it affect only a small part of Sumerian lexicon, unlike for example ene, which suggests a derivational nature. On the other side, it is more or less regular, that is, except for a small number of counterexamples, if the most affected participant is plural, the plural form of the stem is present. This obligatoriness is more characteristic of inflectional markers. Does this mean that we have a highly constrained inflection here, a special type of agreement? Semantic specificity plays an important role in separating inflection and derivation, so we have to look into the semantic structure of these verbs.

5.3.2 Participant or event plurality?

As it could be seen above, Jagersma argues that stem alternation stands for event plurality, and participant plurality is only a secondary effect of the pluralization of the event itself. This approach raises several questions, both form a cross-linguistic perspective, and within Sumerian.

We have shown above that there is a relatively small set of verbs in the languages of the verb that shows stem alternation for verbal plurality. Sumerian stem alternating verbs fit into this tendency, with a very similar set of meanings to other such languages. Most authors agree that this stem alternation is the marker of participant plurality (e.g. Bybee 1985: 102-103; Durie 1986). Some others, however consider it as the expression of participant plurality or plural action (cf. Veselinova, WALS). If one takes the former

\[1 \text{ Eki, 1 Amarbadšaga, 1 Ur-Abu, 1 Inimanizi, 1 Šagnuğal: (Leute des) Amarki sind sie. Sie stehen für Verfügung.} \]

"1 Eki, 1 Amarbadšaga, 1 Ur-Abu, 1 Inimanizi, 1 Šagnuğal: (Leute des) Amarki sind sie. Sie stehen für Verfügung."

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>inim-ma-ni-zi</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>Inimanizi</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>PN</td>
<td>1</td>
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</tbody>
</table>

<p>| | | |</p>
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<tr>
<th></th>
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<tbody>
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<td>1</td>
<td>a-mer-ki-me</td>
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<tr>
<td>1</td>
<td>niğšu=še</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PN=3.PL.COP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>goods=TERM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

“1 Eki, 1 Amarbadšaga, 1 Ur-Abu, 1 Inimanizi, 1 Šagnuğal: (Leute des) Amarki sind sie. Sie stehen für Verfügung.”

114 Examples of certain stem alternating verbs are ambiguous, since the grapheme combination DU.DU (actually a highly iconic one) have several readings: lah₄, re₄, su₄, and sub₂.
view, it is only logical to assume that Sumerian, like other languages, marks participant plurality by stem alternation. But if we maintain the possibility that cross-linguistically both basic types of VeP can be expressed by stem alternation, the basic question still have to be answered. Another problem arising from this stand-point is the following: if stem alternation may stand for event plurality, and entail participant plurality, and reduplication has the same function, why a language needs both? Is it the high frequency of these forms that preserved them from regularization, the fate of most infrequent irregular linguistic items? Looking at the number of attestations of plural forms (e: 399 (but it is also a singular present-future form), ugs: 259 (but it is also a singular present-future form), lah₄: 167, ere: 68, sug₂: 21 etc.) it can be seen that they vary in number widely, and some of them are positively rare. This explanation, thus, does not seem to hold.

From a semantic point of view, however, Jagersma’s suggestion must be true: the plurality of participants and the plurality of events or actions are bound to each other, since usually it is necessary for an event to happen more then once to affect multiple participants. In many of the examples above, on the other hand, it is highly questionable whether multiple events can be assumed. A herd staying on a wasteland (ex. 102), or animals carried away (ex. 100, 102) are difficult to perceive as a multiplicity of staying or carrying events. Furthermore, as the distribution of nominal plurality shows, Sumerian tends not consider the individuality of non-humans, and refer to them as lowly individual entities. Still, in other cases, as ex. 104 shows, it is much more logical to assume a multiplicity of events: slaughter is a series of killing events, when both participants (the victims) and actions need to be pluralized.

Based on the observations above I suggest a continuum of the salience or foregroundedness of event plurality in the case of stem alternation. The factors determining this continuum are the gender of the most affected participants, and the way the construction underscores their individuality. If the participants has no or minimal individual nature (weak identity, strong cohesion), their actions are less considered

116 Data received from the ePSD. Last revised: 10.15. 2012.
117 It is especially striking if we compare the token-frequency of singular and plural forms. Singular tokens are usually more frequent by an order of magnitude, that is, in the thousands.
118 For the notion of foreground in Cognitive Linguistics see Langacker 2008: 58-60.
119 Cf. chapter 2.6.1 above.
separated events. The context also plays an important role: if the event is overtly separated in time or space, an event plural or distributive reading is much more probable.

<table>
<thead>
<tr>
<th>participant plural</th>
<th>event plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-human participants</td>
<td>human participants</td>
</tr>
<tr>
<td>low individuality</td>
<td>high individuality</td>
</tr>
<tr>
<td>same time/space</td>
<td>separated in time/space</td>
</tr>
</tbody>
</table>

This means that the same verb may foreground event plurality more or less according to the participants, and the context. In example (104), for instance, the temporal adverbial expression ud 6-kam 'on the sixth day' suggests that the event happened in a closed time-frame, and hence provides more focus on participant plurality, than on event plurality. In other words, with the change of these factors the place of the given verb on the continuum must be decided on an individual basis.

This is not to suggest that on the right side of the continuum stem-alternation marks event-plurality only. The data from cross-linguistic sources and frequency distributions suggest that participant plurality is the more important function of stem-alternation. The continuum only suggests that the role of the multiplicity of events may have bigger emphasis in the conceptualization of certain verb forms.

5.4 Full reduplication of verbs

5.4.1 Earlier approaches to full reduplication of active verbs

5.4.1.1 Edzard 1971

Edzard lists the following possible functions of reduplication:
- Distributive of the subject or object.
- Emphasis on the size, immensity, or importance of the object.
- Emphasis on the temporal duration (of the event).
- Detailing or repetition of the action.
- Emphasis on the high efficiency or scope of the action.
Edzard also notes that certain types of reduplicated verbs could be lexicalized (cf ch. 6.)

Edzard 2003 sums the functions of VeP in the following: “[reduplication is] to denote different sorts of plurality or totality os the ’subject’ or ’object’; to stress its size, strength, or general importance; or to stress the durative or iterative character of the action” (Edzard 2003: 79).

5.4.1.2 Yoshikawa 1993
Yoshikawa’s classes are as follows:
- Reduplication for the plurality of the object (participant plurality in our terms).
- Iterative reduplication.
- Causative reduplication.
- Reciprocal reduplication.
- Denominative reduplication.
- Onomatopoeic reduplication.

As it can be seen Yoshikawa distinguishes six different meanings for fully reduplicated verb stems in Sumerian. As Thomsen notes (2001: 126-127), these classes are based mainly on Akkadian translations. I find it very unfortunate to build a classification of Sumerian verbal plurals upon their Akkadian interpretations (cf. Yoshikawa 1993), since Semitic languages have their own system of verbal plurality (see Greenberg 1999), and we have no reason to assume that it fully overlaps with the Sumerian system of VeP. Furthermore, as Wood (2007) has shown, there are barely two languages in which VeP functions in exactly the same way, especially if the languages are not cognates. Thus, bilingual lexical texts which list reduplicated Sumerian verbs and their Akkadian translations tell more about the way Akkadians tried to relate Sumerian meanings to their own language than about the Sumerian meanings themselves; this is particularly probable after Sumerian died out as a spoken language.

5.4.1.3 Thomsen 2001
Thomsen notes that the two kind of reduplication, namely the partial marû and the full hamtu reduplication are difficult to distinguish in certain cases, mainly because of the character of Sumerian orthography: the doubling of a sign does not reveal the phonetic reality that could help to differentiate between these two constructions.
According to Thomsen, full reduplication “seems to express exactly the same as the plural verbs” (125), that is, plurality of the most affected participant. She also notes that it was probably a non-obligatory way of marking, its function was only “to stress the plurality” (125). Thomsen explicitly rejects the assumption of other functions of VeP in Sumerian, as iterativity, intensity, etc., on the ground that “they are difficult to verify because such meanings are based on the subjective interpretation of the text” (126). It is a very important criticism, and as we will see to get around this difficulty I suggest to rely heavily on what current typological and cognitive linguistics have to say about verbal plurality.

5.4.1.4 Jagersma 2010

Jagersma assumes several functions of reduplication, and most of these are subtypes of event or participant plurality. He enumerates different combinations of plural agent, plural object and repetition of the action. His categories can be summarized in the following:

- Plurality of action or state, which includes repetition (event plurality);
- plurality of action on different objects;
- participant plurality (several agents “perform the same action once” , and “several persons perform the same action once” (Jagersma 2010: 321).

He also notes that there is “not a great shift in meaning from ‘doing repeatedly’ to ‘doing thoroughly’. It comes therefore as no surprise that a plural stem may have an intensive meaning.” (ibid)

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120 Cf. also Poebel 2005 [1923]169-171, although Poebel suggested event plurality, too.
5.4.2 Summary of the functions assumed in Sumerological literature

<table>
<thead>
<tr>
<th>function</th>
<th>Edzard 1971</th>
<th>Yoshikawa 1979</th>
<th>Thomsen 2001</th>
<th>Jagersma 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>participant plurality</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>distributive</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>participant intensity</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>durative</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>repetitive</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>efficient action</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>causative</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>reciprocal</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>onomatopoeic</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

This table reveals two phenomena: there are many different — and in certain cases, linguistically questionable — functions associated with verbal plurality; and different authors assign different sets of meanings to verbal reduplication. This variability in the assumed values shows that it is very difficult to interpret Sumerian sentences involving plurality without the external support of linguistic typology; there are many ways to read and translate a sentence to conclude only from textual evidence.
5.4.3 The full reduplication of compound verbs

As it is well known, compound verbs consist of a noun, usually in the absolutive, and a verb which takes this noun as its direct object. Most compound verbs cannot be interpreted literally, since they violate the rule of compositionality. In other words their meaning cannot be 'computed' from the meaning of their parts; at least not by interpreting their parts literally. I suggest – partly opposed to Karahashi (2000) that compound verbs can be interpreted as being metaphorical or metonymical in the framework of the theory of cognitive metaphors (Lakoff – Jonhson 1980, Kövecses 2002 etc.). This point of view entails that the nominal part is non-referential, e.g. in šu mu₂ 'to pray' (lit. 'to grow the hand'), there is no need to a real hand grown. There may have been a typical movement of the hand which is the onomaisiological basis of naming the whole act, thus there is a metonymical process behind the semantics of this verb.

From the viewpoint of verbal plurality, what concerns us is that what participants are affected in the case of compound verbs, if any. Since the non-referential direct object does not have to play any role in the event described by the verb, it seems logical to suppose that although generally the direct object is the most affected participant, and therefore the most likely to be pluralized, in these cases VeP does not refer to their plurality. This means that participant plurality and participant distributives are less likely interpretations of pluralized compound verbs, although they are almost always transitive verbs. If a participant is affected by the meaning of the reduplicated verb, it is expected to be not the direct but the indirect object of the verb which is in most cases a referential noun.

5.4.4 Free reduplication and marû

In certain cases it is not obvious whether we deal with free – plural – reduplication or the marû form a verb of the reduplicating class.\footnote{Cf. Thomsen 1984: 111.} These verbs are marked for the present-future tense by the partial or full reduplication of the stem. If the verbal stem is C₁VC₁/₂, it is easy to identify the marû stem, it takes the from C₁V-C₁V, as in the example of ǧar → ǧa₂-ǧa₂. More problematic are the cases of CV verbs, like ǧi₄ where the reduplicative form must be CV-CV.\footnote{For a possible list of verbs belonging to the reduplicated class, see Thomsen 2001: 114.}
However, it is worth to clarify basic criteria for deciding whether a given reduplicated form expresses tense or plurality. Both grammatical and semantic-pragmatic criteria can be applied:

**Grammatical:**
- pronominal patterning: *hamtu* and *marû* bases require different pronominal markers, so if these are given, the tense can be decided;
- modals: certain modals require specially the present-future stem, so if such a modal is given in the prefix chain, the verb is *marû*;

**Semantic:**
- typically *marû* forms express an event happening in the present or are about to happen in the future;
- after a sentence with a main verb in the past tense (*hamtu*), *marû* expresses simultaneity, or posteriority (see Streck 1998);
- verbal plurality follows an ergative pattern, thus, if one of the participants is involved, that is expected to be the mostly effected one. It can be investigated whether it is meaningful to interpret a pluralized patient in the given example.

Another question is the co-existence of verbal plurality and present-future marked on the same token. It is undoubtedly unusual to find an inflectional and a derivational function or meaning expressed by the same morphological construction on a verb, but by no means impossible. As it could be seen above, it should cause ambiguities only in the reduplication class, because of the confronting (CV-CV vs CVC-CVC at CVC verbs) or parallel (CV-CV at CV verbs) expressions. But, as Krecher (1995) notes, in certain cases reduplication of a verb is the mere graphemic representation of the present-future tense, hence there are other problematic examples where it is a question whether reduplication is such a graphemic marker or a case of VeP.123

### 5.4.5 The types of verbal plurality in Sumerian

#### 5.4.5.1 The method of analysis

In the following, we investigate VeP expressed by full reduplication in details. As it could be seen in chapter 4, lexical aspect is a very important factor in determining the values of

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123 Many such examples can be found in the unadug corpus, where the present-future tense of verbs is often marked by reduplication, e.g. on the verb *šu ti(-ti)* 'to receive'.

110
attestations. It will also be seen that certain verbs are prone to change lexical aspect according to the direct object, and that adverbiai adjuncts may significantly influence the analysis of a given example. Thus I suggest the following algorithm as a unified model for interpreting cases of VeP expressed by reduplication in Sumerian:

1. Assessing the lexical aspect of the verb.
2. Assessing the context.
   a. Investigating the core arguments: the grammatical gender (human – non-human) of the most affected participant; the number (general – singular – plural – greater plural – collective – distributive) of the most affected participant.
   b. According to the syntactic context, a reanalysis of the predicate aspect of the verb may be in order.
3. Investigating the adjuncts.
4. Interpreting the clause.

In the next sections I will show examples of the analysis of Sumerian clauses with verbs of different predicate aspects, and of course showing full reduplication as a marker of VeP.

5.4.5.2 Achievements

Consider the following clause:

(107) En-metena 1: ii 36-38

na-ru₂-a-be₂  izi  ba-šum₂  i₃-burₓ-burₓ
narua =bi=e  izi=Ø  b-a-n-šum-Ø  i-n-bur-bur-Ø
to give-3.SG.P

“He set fire to their stelae and tore them out.”

The most plausible interpretation is that the destruction of the stelae is conceptualized as one event, and the tearing of the individual stela are subphases of this event, thus, according to the achievement character of the verb, we can interpret it as an event internal repetition, with the secondary effect of the pluralization of the indirect object. In other words in this case the event of destruction took place at one, short period of time, perceived as more or less continuous, at the same location.
(108) En-metena 1: ii 39-42

<table>
<thead>
<tr>
<th>barag</th>
<th>ri-a</th>
<th>diğir-re₂-ne</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ri=`a</td>
<td>diğir=ene=ak</td>
</tr>
<tr>
<td>dais</td>
<td>impose=SUB</td>
<td>deity=PLUR=GEN</td>
</tr>
</tbody>
</table>

nam-nun-da-ki-ġar-ra  ab-du₁₃-a  i₃-gul-gul

Namnundakiğara=`a  a-b-Ø-du-Ø=`a-Ø  i-n-gul-gul-Ø


“He destroyed the pedestals erected for the gods that were set up at Namnunda-kiğara.”

Here the object is not pluralized directly, but indirectly by the plural diğir=ene 'gods'.

The analysis of the verb gul 'to destroy' is problematic because depending on the object it may be an achievement or an accomplishment. Destroying a pedestal may be an instantaneous act, e.g. by demolishing it, but in case of a wall (as we will see in example 115), it is obviously much more time consuming, in which case an accomplishment interpretation is favoured. Here the place name in the locative case supports the assumption that the multiplicity of acts of destruction are phases of one event that took place at one location.

A similar question about the assessment of gul 'to destroy' arises about the next example:

(109) Irikagina 5: o iv 3-4

<table>
<thead>
<tr>
<th>alan-bi</th>
<th>i₃-gul-gul</th>
</tr>
</thead>
<tbody>
<tr>
<td>alan=bi=Ø</td>
<td>i-n-gul-gul-Ø</td>
</tr>
</tbody>
</table>


“He destroyed its statues.” –mt

In this case, the context clarifies that the destroyed statues belong to a well-defined place, the temple of Ğatumdug, thus an achievement reading seems proper.

(110) Irikagina 5: o v 1-2

<table>
<thead>
<tr>
<th>he-en-da-ka</th>
<th>sumur₃</th>
<th>ne₂-bala-bala</th>
</tr>
</thead>
<tbody>
<tr>
<td>hendak=`a</td>
<td>sumur=Ø</td>
<td>ni-n-bala-bala-Ø</td>
</tr>
<tr>
<td>GN=L₁</td>
<td>canopy=ABS</td>
<td>L₁-3.SG.H.A-to turn.RDP-3.SG.P</td>
</tr>
</tbody>
</table>

112
“In Henda he tore down the canopies.”  -mt

The verb bala 'to turn', similarly to the verb gul 'to destroy', may change situation type according to its object. In this case the text suggests that the action taken is destroying, or overturning canopies, which probably is an instantaneous act. The naming of one location where the action took place leads to an event-internal iterative interpretation.

(111) Utu-hegal 4: 77-82

<table>
<thead>
<tr>
<th>ur₄nin-a-zu</th>
<th>na-bi₄en-lil₂</th>
<th>šagina</th>
<th>ti-ri₂ga-a-an</th>
</tr>
</thead>
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<td>Nabi-Enlil</td>
<td>šakkanak</td>
<td>Tirigan</td>
</tr>
<tr>
<td>PN</td>
<td>PN</td>
<td>general</td>
<td>GN</td>
</tr>
</tbody>
</table>

ki-en-gi-še₃  kiğ₂-gi₄-a  im-gi₄-eš
Kiengir=še  kiğgia  i-m-gi-eš
GN=term  messenger  FIN-VEN-to turn-3.PL.S

<table>
<thead>
<tr>
<th>in-dab₅-dab₅</th>
<th>šu-ba</th>
<th>ĝeš</th>
<th>ni-ĝar</th>
</tr>
</thead>
<tbody>
<tr>
<td>i-n-dab-dab-Ø</td>
<td>šu=bi=’a</td>
<td>ĝeš=Ø</td>
<td>ni-n-ĝar-Ø</td>
</tr>
</tbody>
</table>


3.SG.P

“He captured Ur-Ninazu and Nabi-Enlil, generals of Tirigan, who returned as envoys to Sumer, and put them in handcuffs.”

In this example there are two people named, and the plural pronominal marker -eš of the first verb clearly indicates that the object is plural. It is interesting that the third verb is not pluralized. The main difference between the second and the third verb is that the most affected participants of the dab₅ are animates, and that of the verb ĝar are inanimates (hands), but VeP can affect non-human participants as well, hence this does not explain the difference. It seems more probable that the difference is in the way the two events are conceptualized: the catching may not have taken place at the same exact location and time, that is, at least some minimal individuation of the capturing actions are in order; handcuffing them, on the other side, may have been perceived as one event, thus not processed as a case of plurality. It is also important to note that the same two envoys are affected by both verbs, but this does not trigger reduplication in the case of the second
verb. It shows, that the plurality of participants only is not an indication of VeP in the case of active verbs.

The next two examples can be analysed in a similar fashion, since they contain the same verb and have similar contexts:

(112) Lugal-anatuma 1: 10-11

<table>
<thead>
<tr>
<th>temen-bi</th>
<th>ki-a</th>
<th>ni-sig-sig9</th>
</tr>
</thead>
<tbody>
<tr>
<td>temen=bi=Ø</td>
<td>ki=’a</td>
<td>ni-n-sig-sig-Ø</td>
</tr>
<tr>
<td>foundation peg=3.SG.NH.POSS=ABS</td>
<td>place=L1</td>
<td>L1-3.SG.H.A-to put-3.SG.P</td>
</tr>
</tbody>
</table>

“He placed its foundation pegs” –*mt*

(113) Gudea Statue B: vi 13-20.

<table>
<thead>
<tr>
<th>ti-da-num2</th>
<th>hur-sağ</th>
<th>mar-du2-ta</th>
<th>ĝešnu-gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tidnum</td>
<td>hursağ</td>
<td>Martu=ta</td>
<td>ĝešnugal=Ø</td>
</tr>
<tr>
<td>GN</td>
<td>mountain</td>
<td>GN=ABL</td>
<td>alabaster=ABS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>lagab-bi-a</th>
<th>mi-ni-de6</th>
<th>ur-pad-da-še3</th>
<th>mu-na-dim2-dim2</th>
</tr>
</thead>
<tbody>
<tr>
<td>lagab=bi=’a</td>
<td>m-ni-n-de-Ø</td>
<td>urpada=še</td>
<td>m-n-a-n-dim.rdp-Ø</td>
</tr>
</tbody>
</table>

“He brought blocks of alabaster from Tidanum in the mountain range of the Amorites, he fashioned ... from them and placed them as *supporting bolts* in the temple.” –*mt*

In these two sentences the placing of different objects (most likely a ritual and/or adorning action) in the temples is executed in one event respectively, thus they receive an event-internal interpretation. In the second example the first reduplicated verb *dim* ‘to fashion, create’ is also a case of VeP, but more likely an accomplishment (see chapter 4) with an event-external reading, since cutting bolts of stone slabs is time-consuming, and perceived as more individual actions than putting them into their place, which may be the parts of a ritual.
5.4.5.3 Accomplishments

The clearest examples of pluralized accomplishments are where the events follow each other relatively distantly in both space and time:

(114) Irikagina 3: iv 12’

\[
\text{kur-kur-re}_2 \quad \text{šu} \quad \text{e-ma-tag-tag}
\]

kur-kur=e \quad šu=Ø \quad i-m-b-a-n-tag.tag-Ø

land.RDPL=DAT.NH \quad hand=ABS \quad \text{FIN-3.NH-DAT-3SG.H.AG-take.RDP-3SG.OBJ}

“he seized all the foreign lands”

The compound verb šu tag means ’to touch’, but in this context it should be reinterpreted as ’seize’. In this sentence the most affected participant – the indirect object marked by DAT.NH – is reduplicated, that is, marked for a collective/greater plural reading.

As I mentioned earlier, the verb gul ’to destroy’ may acquire a different interpretation depending on the object. In the next example the event-external interpretation seems more appropriate:

(115) Sargon 11: 6-8

\[
\text{bad}_3\text{-bi} \quad \text{i}_3\text{-gul-gul} \quad \text{zag} \quad \text{a-ab-ba-ka-še}_3
\]

bad=bi=Ø \quad i-n-gul-gul-Ø \quad zag \quad a’abak=ak=še

\[
\text{wall}=3.SG.NH.POSS=ABS \quad \text{FIN-3.SG.H.AG-destroy.RDP-3-} \quad \text{side} \quad \text{sea=GEN=TERM} \quad \text{.SG.P}
\]

“He demolished the city walls as far as the shore of the sea.” –mt

In this case the event external character is supported by the adverbial expression \text{zag a’abak=ak=še} ’as far as the shore of the sea’. It emphasizes that the activity was distributed over a big area, hence increasing the salience of the relative individuation of the acts.

(116) En-metena 1: ii 4-5

\[
\text{eg}_2\text{-ba} \quad \text{na-ru}_2\text{-a} \quad \text{e-me-sar-sar}
\]

eg=bi=’a \quad narua=Ø \quad i-m-b-i-n-sar-sar-Ø

\[
\text{levee}=\text{DEM2=L2.NH} \quad \text{stela=ABS} \quad \text{FIN-VEN-3.NH-L2-3.SG.H.A-to write.RDP-3.SG.P}
\]

“He inscribed stelae along the levee.” –mt

This example shows that the verb sar ’to write’ which is an activity verb by default may acquire an accomplishment interpretation: in this case the sentence obviously does not say that he (En-metena) wrote something on certain stelae along the levee, but that he set
up stelae with complete texts along the levee. Somewhat similarly to example (115) before
the expression eg=bi=a ‘along the levee’ (lit. on the levee) supports both an event-external
and spatial distributive interpretation.

(117) En-anatum I 2: xiii 1-4

<table>
<thead>
<tr>
<th>urin</th>
<th>udu</th>
<th>urin</th>
<th>ğeš-a</th>
</tr>
</thead>
<tbody>
<tr>
<td>standard</td>
<td>udu</td>
<td>standard</td>
<td>ğeš=ak</td>
</tr>
</tbody>
</table>

ğar-ra | ḫendur-sağ-ka-ka | e-sar-sar#
ğar-’a=Ø | Hendursağak=ak=’a | i-n-sar-sar-Ø
to put-PST.PTC=ABS | DN=GEN=L2.NH | FIN-3.SG.H.A-to write.RDP-3.SG.P

“He inscribed the copper standard, and the sheep of the copper standard on a wood(en post) (in the temple of) Hendursağə.” -mt

Although the meaning of the sentence is not entirely clear, it seems that at least two
inscribing acts were achieved: one on the standard and one on the sheep, which are
percieved as two (temporally) distinct actions. This shows that regardless of the predicate
aspect, Sumerian VeP shows a very strict binary opposition between singular and plural:
more than one entity can be pluralized.

The next two examples contain non-finite reduplicated verbs:

(118) E-anatum 1: cartouche A 1-3; repeated in E-anatum 14: i 1’-2’

c₂-an-na-tum₂ | kur | gu₂ | ġar-ğar | ḫnin-ğir₂-su-ka
Eanatum | kur=e | gu=Ø | ġar.ğar-Ø | Ningirsuk=ak
RN | land=L3.NH | neck=ABS | put.RDP-PRS.PTC | DN=GEN

“Eanatum, who makes the foreign lands submit to Ningirsu”

The verb gu₂ ġar ’to subjugate’ is clearly an accomplishment. Although the indirect
object (kur ‘land’) is not reduplicated here, there is obviously more than one land
subjugated by the ruler. (If reduplicated, it would most probably mean ’all the lands’, see
ch. 3 above.) Since accomplishments are change-of-state predicates (cf. ch. 4 above), it is
not surprising to find argument plurals among them. The temporal dimension in this case is
probably less salient here: in this instance the expression kur gu₂ ġar-ğar functions as an
attribute of the ruler, and the temporal distribution of the conquering events is secondary to
the fact that the king conquers many lands.

(119) Gudea Cyl. A: ix 24
This example is a close parallel to (118), with the same general meaning, and analysis. The only difference is that the verb šu ğar 'to carry out (a task)' gains an idiosyncratic interpretation from the context.

Maybe a similar shift in salience can be observed in the next – somewhat ambiguous – example:

(120) NSGU 41: 10’-12’

```
tukul-ğu_{10}  šar_{2}-ur_{3}  kur  šu-še_{3}  ğar-ğar
\textcolor{red}{\text{tukul}=ğu=Ø \quad \text{šar}=kur=Ø \quad \text{šu}=še \quad \text{ğar}=ğar=Ø=Ø}
\text{weapon=}3.\text{SG.POSS=}\text{ABS} \quad \text{WN} \quad \text{land=}\text{abs} \quad \text{hand=}\text{term} \quad \text{place.RDP=}\text{PRS.PTC=}\text{ABS}
```

“my weapon is the Šar-ur that subdues the lands.” --mt

This example is actually has more than one possible interpretations regarding VeP. One interpretation prefers an event-internal reading: in this case it is assumed that the child and the spouse of Kuli ran away at the same time, and their escapes are subevents; in this case argument plurality is more salient. On the other side, zah_{3} 'to flee' is an accomplishment type of verb which allows another, event-external reading supported by the temporal adverbial 'fifth year’. This interpretation would entail that the escapes are two different events that took place in different times within the year. Unfortunately in the case of such clauses our lack of knowledge of the real-world context makes it impossible to have a well-grounded decision. The next sentence of the text poses a similar problem:

(121) NSGU 41: 13’

```
ku-li  dumu  ba-ba-ğu_{10}-ke_{4}-ne  ba-an-da-zah_{3}-haz_{3}-eš_{2}
\text{Kuli}=ak \quad \text{dumu} \quad \text{Babağu}=ak=ene=da \quad \text{ba-}\text{n-da-zah-zah-eš}
\text{PN=}\text{GEN} \quad \text{child} \quad \text{PN=}\text{GEN=}\text{PL=}\text{COM} \quad \text{MID-3.SG.H-COM-to flee-3.PL.S}
```

“In the fifth year the spouse and child of Kuli fled from the children of Babağu.”

This example, actually has more than one possible interpretations regarding VeP. One interpretation prefers an event-internal reading: in this case it is assumed that the child and the spouse of Kuli ran away at the same time, and their escapes are subevents; in this case argument plurality is more salient. On the other side, zah_{3} 'to flee’ is an accomplishment type of verb which allows another, event-external reading supported by the temporal adverbial 'fifth year’. This interpretation would entail that the escapes are two different events that took place in different times within the year. Unfortunately in the case of such clauses our lack of knowledge of the real-world context makes it impossible to have a well-grounded decision. The next sentence of the text poses a similar problem:

```
dumu  ba-ba-ğu_{10}-ke_{4}-ne  mu-dab_{3}-dab_{3}-be_{2}-eš
\text{dumu} \quad \text{Babağu}=ak=ene=e \quad \text{m-n-dab-dab-eš}
\text{child} \quad \text{PN=}\text{GEN=}\text{PL=}\text{ERG} \quad \text{VEN-3.SG.H-to seize.RDP-3.PL.H.A}
```

“The children of Babağu captured them”

Here the basic interpretation based on dab{s} 'to seize’ would be event-internal; but since it cannot be decided that the capturing events took place at the same time, or not, an
event-external interpretation is not excluded either. Since these types of pluractionality are not distinguished by formal markers, this ambiguity probably was present even to Sumerian speakers.

There are only a few examples that suggest a habitual reading. Consider the next two sentences:

(122) Gudea Statue R: i 6-7

\[
\begin{align*}
\text{lu}_2 & \quad \text{bi}_3\text{-lu}_5\text{-da} & \quad \text{diğir-re-ne-ke}_4 & & \quad \text{si} & & \quad \text{bi-sa}_2\text{-sa}_2\text{-a} \\
\text{lu} & \quad \text{biluda} & \quad \text{diğir=ene=ak=e} & & \quad \text{si=Ø} & & \quad \text{b-i-n-sa-sa-Ø-‘a-e} \\
\text{person} & \quad \text{ritual} & \quad \text{god=PLUR=GEN=L3.NH} & & \quad \text{horn=ABS} & & \quad 3.NH-L3-3.SG.H.A-to \\
\end{align*}
\]

“who (always) performs the rituals of the gods correctly”


\[
\begin{align*}
\text{mu} & \quad ^d\text{amar-}^d\text{suen-ka-ta} & \quad \text{en-na} & & \quad \text{mu} & & \quad ^d\text{i-bi}_2\text{-}^d\text{suen} \\
\text{mu} & \quad \text{Amar-Suena=ta} & & \quad \text{en-na} & & \quad \text{mu} & & \quad \text{Ibi-Suen} \\
\text{year} & \quad \text{RN=}\text{TERM} & & \quad \text{until} & & \quad \text{year} & & \quad \text{RN} \\
\text{lugal-e} & & \quad \text{en} & & \quad ^d\text{inana} & & \quad ^d\text{unug}^{\text{kl}}\text{-}\text{ga} & & \quad ^d\text{maš}_2\text{-e} \\
lugal=e & & \quad \text{en} & & \quad \text{Inana} & & \quad \text{Unug=ak=Ø} & & \quad \text{maš=e} \\
\text{king=}\text{ERG} & & \quad \text{priest} & & \quad \text{DN} & & \quad \text{GN=}\text{GEN=}\text{ABS} & & \quad \text{extispicy=}\text{L3} \\
\text{in-pa}_3\text{-de}_3 & & \quad ^d\text{nin-lil}_2 & & \quad ^d\text{tum-ma-al}^{\text{kl}}\text{-}\text{še}_3 & & \quad ^i_3\text{ţi-ğen-ğen} \\
i-n-pa_d\text{-e} & & \quad \text{Ninlil=}\text{Ø} & & \quad \text{Tummal=}\text{še} & & \quad \text{i-ţi-ğen-ğen=}\text{Ø} \\
\text{FIN-3.SG.H.A-to} & & \quad \text{find-} & & \quad \text{DN=}\text{abs} & & \quad \text{GN=}\text{TERM} & & \quad \text{FIN-to go.}\text{RDP-3.SG.S} \\
\text{L3.NH} & & & & & & & \\
\end{align*}
\]

“From the years of Amar-Suena until King Ibbi-Suen chose { En-am-gal-ana } by extispicy as the high priest of Inana of Unug, Ninlil came regularly to the Tummal.”

Note that the main verb of the second example, ğen, is by default an activity type motion verb. In this sentence, however, as the destination of the motion is explicitly given, it is reinterpreted as an accomplishment type motion verb.

Habitual reading is a subcategory of event-external plurality. It seems that it is not a well-established class in Sumerian VeP, and it occurs in a limited variety of contexts. Hence it is not obvious to identify it as a category of VeP in Sumerian. This problem, of course, does not exclude the habitual interpretation of sentences like (13) or (14), since it
can be seen as a contextually determined interpretation of a cross-linguistically well established category.

In certain sentences it is very difficult to decide whether an achievement – event-internal or accomplishment – event-external reading would be more appropriate. I will show two such examples:

(124) Irikagina 5: i 6-7

\[ \text{kug} \quad \text{za-gin₃-bi} \quad \text{ba-ta-keše₂-keše₂} \]

\[ \text{kug} \quad \text{zagin=bi=Ø} \quad \text{ba-ta-n-kešed.kešed-Ø} \]

metal \quad \text{lapis lazuli=3.SG.NH.POSS=ABS} \quad 3.NH-ABL-3SG.A-bind.RDPL-3SG.P

“He seized its precious metal and lapis lazuli.” – *mt*

This translation is chosen for aesthetic reasons. The translation ’bound together’ instead of ’seize’ would be more precise here, and it would mirror the accomplishment nature of the predicate more aptly.

The analysis of this sentence is problematic, since it describes a single, multiphased action: there is a series of plundering events in the context, one of them expressed by the clause. On the other hand, it is clearly not a series of achievements, instantaneous actions. Thus, we have opposing motivations to assess the sentence as an event-internal, or event-external pluractional.

It is possible, however, to analyze the predicate as a participant distributive: there are two different types of material taken which is a strong indication of a distributive reading (cf. Mithun 1999).

(125) Gudea Statue D: ii 13 – iii 2

\[ \text{šaɡ₂-ba} \quad \text{niɡ₂-mussa} \quad {^d\text{ba-u₂}} \]

\[ \text{šag=bi=’a} \quad \text{niɡmussa} \quad \text{Bau} \]

\[ \text{heart=3.SG.NH.POSS=L1} \quad \text{wedding gift} \quad \text{DN} \]

\[ \text{nin-a-na-ke₄} \quad \text{si} \quad \text{ba-ni-sa₂-sa₂} \]

\[ \text{nin=ani=ak=e} \quad \text{si=Ø} \quad \text{ba-ni-n-sa-sa-Ø} \]

\[ \text{lady=3.SG.H.POSS=GEN=L3.NH} \quad \text{CVNE=ABS} \quad 3.NH-L1-3.SG.A-to equal.RDPL-3.SG.P \]

“arranged the wedding-gifts for Bau, his lady, inside it (the temple).” – *mt*

From the compound verb *si sa₂* ’to put in order, arrange’.

This sentence also seems to describe a single event with subphases, in the context of building and maybe consecrating a temple, or executing some type of offering ritual in
it. We do not exactly know, how it was done, but most probably it is not an instantaneous act, thus it is an accomplishment.

Applying the grouping principles given in chapter 4, it can be seen that common cause (the agent of the sentence, the king), a common goal (the plunder of certain temples, and execution of a ritual respectively) and more or less a perceptual continuity are all given in these cases, thus in spite of the predicate aspect of these verbs I suggest an event-internal, iterative interpretation of these sentences.

5.4.5.4 Activities, position and motion verbs (location-prominent verbs)
Most activity-type verbs are motion verbs in Sumerian, which I discuss in this chapter. There are few non-motion verbs that can be assessed as activities, and show reduplication for VeP.

(126) Irikagina l: v 22-vi 1

<table>
<thead>
<tr>
<th>sagga</th>
<th>GAR-ke₄</th>
<th>kiri₆</th>
<th>ama</th>
</tr>
</thead>
<tbody>
<tr>
<td>sagga</td>
<td>GAR=ak=e</td>
<td>kiri</td>
<td>ama</td>
</tr>
<tr>
<td>administrator</td>
<td>GN=GEN=ERG</td>
<td>orchard</td>
<td>mother</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ukur₃-ra₂</th>
<th>ḡeš</th>
<th>na</th>
<th>ba-ni-degₓ-degₓ</th>
</tr>
</thead>
<tbody>
<tr>
<td>ukur=ak=ak=’a</td>
<td>ḡeš=Ø</td>
<td>na=e</td>
<td>ba-ni-n-deg-deg-Ø</td>
</tr>
</tbody>
</table>

“The temple administrator of ... constantly exploited for himself the garden of poor mothers for wood” – mt

This sentence also has more than one possible interpretation. Since activities are atelic verbs, a continuous reading seems the logical choice here.

Most activity-type VePs come from position and motion verbs. Most – but not all – instances are from the Old Babylonian period, by which Sumerian has presumably ceased to be a spoken language. Many location prominent verbs are activites by default, like gub ’to stand’, tuš ’to sit, dwell’, ġen ’to go’. Most location-prominent verbs belong to the stem alternating class, but can also be reduplicated:

(127) Šulgi A: 46

---

124 Of course, it doesn’t matter whether it was the king who personally executed the actions referred to by the verbs (actually, in the first case it is very improbable) as far as the ruler appears as agent in the sentences.
The verb form sug₂ is the plural stem of the verb gub 'to stand'. The first, non-finite verb is also reduplicated, marking that there is a multitude of cities founded. Since the main verb is stem-alternating showing the plural stem, the reduplication presumably adds another meaning element. Since it is a location-prominent verb, and the form mada='a 'in the land’ refers to a big area, I suggest that the additional meaning element is spatial distributivity, and that the verb refers to the many cities at different locations in the Land.

(128) Šulgi C: 20-21

ki-gub-ba-ḫu₁₀ kur mu-gul-gul

kigub=ak=ḫu kur=Ø m-n-gul-gul=Ø
station=GEN=1.SG.POSS kur=ABS VEN-3.SG.H.A-to destroy.RDP-3.SG.P

ki-tuš-a-ḫu₁₀ uru₂ mu-lah₄-[lah₄]
dwelling=GEN=1.SG.POSS city=ABS VEN-3.SG.H.A-to bring.PL.RDP-3.SG.P

“Where I stand, I destroy foreign lands again and again; where I sit, I plunder cities.”

The verb form lah₄ is the plural form of the stem alternating verb de₆ 'to bring, carry’ which means that it is pluralized even without reduplication. This suggests that it has an additional meaning element besides the plurality of the most affected participant, the direct object in this case. It is interesting that the first verb is also reduplicated, but not a location prominent verb, and in this context a similar interpretation of the two seems logical. The temporal dimension of the pluractionality of the first verb (an event-external reduplication) can be translated by the English phrase ‘again and again’.

For a similar example, let us consider (129):

(129) Letter from Puzur-Šulgi to Ibbi-Suen about Išbi-Erra's claim on Isin: 21-22
**I want to install my statues, my emblems, my priest and priestesses in their shrines.**

In this case, the reduplicated verb *durun* is the plural form of *tuš* 'to sit, dwell'. Both examples contain a location verb with plural direct objects, and a locational adjunct. This is a clear indication of spatial distributivity: the events took place in different locations. It is more explicit in the second example, but of course the first case also entails the distributivity, since different cities are saliently independent spatial entities.125

There are also location prominent verbs that do not show stem alternation.

(130) En-metena 1: iii 22-24

**The bones of their personnel were left strewn all around the plain**

The verb *taka₄* 'to abandon' receives a location-prominent interpretation in this example, since it means physical abandonment. It can be seen that the event itself is not pluralized: we have no reason to assume more than one abandoning acts. The object (the bones) is not pluralized, either, since it is non-human; on the other hand the possessor of the bones (lu₂-lu₇ 'man, humanity') is, although a collective noun itself, marked with the formative *nam-* which has a collective function. The reduplicated verb stem thus may mark the plurality of the object, and receives a spatial distributive interpretation supported by the adverbial phrase *eden-da* (lit.) 'in the plain'.

(131) Utu-hegal 4: 33-34

125 An interpretation like “plundered a city again and again” is excluded by the use of the plural form of the verb which always indicates plurality of the most affected participant.
In this example the verb $\text{ki us}_2$ 'to set on the ground' is interpreted as 'to settle down, camp'. The stative verb $\text{kur}_2$ 'to be foreign, hostile' is also reduplicated, probably for the emphasis of the number of adversaries the ruler had to deal with. The verb receives a spatial distributive reading, emphasizing that the enemy occupied a big area (as the text later states: both sides of the river Tigris).

5.4.5.5 Semelfactives

There are only a small number of semelfactive verbs reduplicated (or otherwise) in the Sumerian corpus. A couple of examples are:

(132) Gudea Cyl A: ix 14-15

\[
\text{an im-ši-dub}_2-dub_2
\]

\[
an=Ø \quad \text{i-m-ši-dub.dub-Ø}
\]

\[
an=\text{ABS} \quad \text{FIN-VENT-TERM-shake.RDPL-3.SG.S}
\]

"the heavens tremble (at the roaring of my temple)"

(133) The lament for Sumer and Urim: 440

\[
^d \text{alamuš-e geš gidru ba-da-an-šub šu-ni gu}_4\text{-ud-gu}_4\text{-ud}
\]

\[
\text{Alamuš=e gidru=Ø \quad ba-da-n-šub-Ø \quad šu=ani=Ø \quad gud-gud}
\]

\[
\text{DN=ERG \quad sceptre=ABS \quad MID-COM-3.SG.H.A- hand=3.SG.H.POSS=ABS \quad to jump.RDP}
\]

\[
to \quad \text{drop-3.SG.P}
\]

"Alamuš threw down his sceptre, his hands twitching." –$mt$

(134) Gudea Cyl A: ix 14-15

\[
\text{min-kam-ma-še}_3 \quad \text{nu}_2\text{-a-ra} \quad \text{nu}_2\text{-a-ra}
\]
All three sentences suggest an iterative interpretation which is inherent in the verbs of the English translations. Since the very low number of attestations, it seems very risky to draw extensive conclusions about this group. The first two examples are similar: they describe instantaneous acts that are typically repeated continuously, that is without perceivable inner boundaries, which is a strong indication for event-internal plurality.

The third example above can also be interpreted as a pure marû (present-future) form, in this case the reduplication would only mark the tense of the verb. Needless to say, the two functions can combine, so the VeP interpretation is also possible.

5.4.5.6 Stative verbs and states
Traditionally, Sumerian grammars assume the word class adjective, and treat adjective reduplication as a type of nominal plurality. The view accepted here, however, considers these items stative verbs on the base of their morphological behaviour (see Zólyomi 2005, and the chapters of morphological analysis in ETCSRI). Thus, the reduplication of stative verbs is considered verbal plurality, and is explained accordingly. In this chapter both the plural form of state verbs and stative verbs will be discussed after a summary of adjective reduplication in the relevant Sumerological literature.

5.4.5.6.1 Earlier approaches in the literature

5.4.5.6.1.1 Falkenstein 1950

---

127 Since not every author deals with adjective reduplication separately, certain relevant notes are to be found in chapter 3.2.
The plural reduplication of attributive adjectives occurs exclusively with adjectives referring to a dimension; for participles (predicative adjectives) this does not hold, they can be reduplicated without semantic constraints.

Falkenstein notes that adjectives meaning colors or light are not reduplicated for plurality but for intensity.

5.4.5.6.1.2 Thomsen 2001
Thomsen suggests a ‘superlative’ interpretation of reduplicated adjectives, and notes that only certain adjectives occur in the reduplicated form, for example **gal-gal**, **kal-kal**, and **dirig-dirig**, while others, as **mah**, and **nun**\(^{128}\) do not. Thomsen also notes, that certain adjectives always appear in the reduplicated form, and that “Reduplication of the adjective cannot cooccur with the reduplication of the noun which is qualified by the adjective.” (65)

5.4.5.6.1.3 Edzard 2003
Edzard touches the phenomenon very briefly: “A few adjectives appear in reduplicated form when the preceding substantive is plural” (32). That is, he assumes a simple plural reading of stative verb reduplication.

5.4.5.6.1.4 Jagersma 2010
Jagersma points out that not all adjectives appear in the reduplicated form, and that reduplication has different effect on the meaning of different adjectives, thus, no general rule can be drawn. Certain adjectives, like **gal** ’big’ and **tur** ’small’ have a plural reduplication. Jagersma’s explanation to the fact that many times obviously plural entities stand with a non-reduplicated adjective is that these are cases of “econimizing” (271). Applied to other adjectives, for example **gibil** ’new’, and **sumun** ’old’, Jagersma assumes an “individualizing force, with a meaning ‘each of’ or ’all of” (271).

Certain colour names are always reduplicated, some are not, or at least their reduplication is not marked by writing.

5.4.5.6.1.5 Foxvog 2012

\(^{128}\) It should be noted that at least one exception exists in ETCSL 4.80.1: 129.
According to Foxvog, adjective reduplication has the same function as noun reduplication. Foxvog also assumes that reduplicated adjectives are abbreviated forms of reduplicated noun phrases, thus \textit{diğer gal-gal} is an abbreviation of \textit{diğer gal diğer gal}.

5.4.5.7 Stative verbs: participant plurality and intensity

Since Sumerian lacks the word class of adjectives, we find a lot of stative verbs expressing adjectival notions such as colours, size, and several physical and abstract attributes. There are also classic state verbs, like zu ‘to know’, and ki ağ₂ ’to love’. I will discuss stative verbs first.

The non-finite form of stative verbs often serve as modifiers in noun phrases, and reduplication is not unusual for a relatively small set of stative verbs. It is function, though, seems to distinguish between human and non-human nouns, because human nouns can have a regular marker of plurality, namely the enclitic =ene. Consider the following examples:

(135) Šu-Suen 17: 6-11

\begin{verbatim}
\textit{dšu-dšu} išib an-na gudu₄
Šu-suen išib An=ak gudug
RN priest DN priest
\end{verbatim}

\begin{verbatim}
šu dadag \textit{dŠu-dšu} išib an-na gudu₄
šu dadag Enlil Ninlil=ak=ak
hand bright DN DN=GEN=GEN
u₃ diğer gal-gal-e-ne
u diğer gal-gal=ene=ak
and god to be big.RDP=PLUR=GEN
\end{verbatim}

“Šu-Suen, išib priest of An, gudug priest with purified hands for Enlil, Ninlil, and the greatest gods”

It must be noted, that this construction occurs most frequently with the noun \textit{diğer} ‘god’. It can be seen that the the NP is pluralized by the enclitic =ene, so the reduplicated stative verb is expected to express some other value. The next example is one with a non-human head:

(136) Gudea Statue B: vi 59-61

\begin{verbatim}
hur-sağ bar-me-ta \textit{na} na lu-a
\end{verbatim}
“He loaded huge ships with gravel from the mountain range of Barme”

It is not obvious at first glance whether there is some difference between human and non-human constructions, and if there is, what it is exactly. Since human constructions are marked for plurality by the enclitic =ene, no further marker of plurality is needed, and the reduplication cannot be a type of agreement, since it is far from compulsory and many stative verbs never show it. Hence we can reasonably assume that reduplication of a stative verb may mark different values in the presence of =ene and in the absence of it. In this case, thus, the increased intensity reading seems logical.

In the case of non-human heads, the solution seems to be more obvious at first glance: since non-human nouns do not have an inflectional plural, the reduplication of the stative verb may function as a non-obligatory plural marker.\textsuperscript{129} This assumption is supported by the high number of the gal-gal constructions: ETCSRI has 13 gal.RDP constructions of 28 reduplicated non-finite verbs\textsuperscript{130}, and ETCSL has 440 examples of this construction.\textsuperscript{131} Its significance is that frequent grammatical constructions are prone to grammaticalize accompanied by semantic bleaching. Thus, a richer meaning may have been bleached into a simpler plural meaning. We need to assume no extra function of VeP for this explanation, since the argument plural interpretation is acceptable for states. A similar function of a reduplicated non-finite stative verb can be observed in the next examples:

(137) Enlil-bani 4: 8

me eridug\textsuperscript{id}-ga kug-kug-ge

\textsuperscript{129} Cf. Tanos 2008: 13-14.

\textsuperscript{130} Data received on 12.13.2011.

\textsuperscript{131} Unlike ETCSR, ETCSL has no option to count all reduplicated non-finite verbs, but nonetheless it is an extraordinary type frequency.
me Eridug=ak kug-kug-ed
divine power GN=GEN to be pure.RDP-PF

“who purifies the divine powers of Eridug” –mt

(138) Gudea Cyl. A: xxvi 27

\[
\begin{align*}
ga\text{-}du & & ig\text{-}e & & u_5 & & us_2\text{-}sa\text{-}bi \\
gadu & & ig\text{-}e & & u & & us\text{-'a}=bi \\
\text{door jamb} & & \text{door}=L3 & & \text{door pivot} & & \text{to be adjacent}\text{-}\text{SUB}=3\text{.SG.NH.POSS}
\end{align*}
\]

\[
\begin{align*}
\text{ug} & & \text{nemur}_x & & \text{tur}\text{-}tur & & \text{šu}\text{-}ba & & \text{du}_2\text{-}ru\text{-}na\text{-}am}_3 \\
\text{ug} & & \text{nemur} & & \text{tur}\text{-}tur\text{=Ø} & & \text{šu}=\text{bi}=’a & & \text{durun}\text{-}am \\
\text{lion} & & \text{leopard} & & \text{to be small}\text{.RDP-PRS.PTC} & & \text{hand}=3\text{.NH.SG.POSS-L1} & & \text{to sit}\text{.PL}-3\text{.SG.COP}
\end{align*}
\]

“Its jambs, against which the door leaves close, are young lions and panthers lying on their paws.”

(139) Irigagina 3: v 2’-4’

\[
\begin{align*}
\text{e}_2 & & \text{bappir}_3 & & \text{ĝeštin} & & \text{siла}_3 \\
\text{e} & & \text{bappir} & & \text{ĝeštin}=ak & & \text{siла} \\
\text{house} & & \text{brew} & & \text{vine}=\text{GEN} & & \text{vessel}
\end{align*}
\]

\[
\begin{align*}
\text{gal}\text{-}gal & & \text{lugal}\text{-}bi\text{-}ra & & \text{tum}_2\text{-}ma & & \text{mu}\text{-}na\text{-}du}_3 \\
\text{gal.gal} & & \text{lugal}=\text{bi}=\text{ra} & & \text{tum}=’a=\text{Ø} & & \text{m-n-a-n-du}=\text{Ø} \\
\text{big.RDP} & & \text{king}=3\text{.SG.NH.POSS}=\text{DAT.H} & & \text{to bring}\text{.PF}=\text{SUB}=\text{ABS} & & \text{VEN}-3\text{.SG.H-DAT}-3\text{SG.H.A-to build}-3\text{.SG.OBJ}
\end{align*}
\]

“he built the winery in which wine in great vats was brought for its master”

The first sentence can be interpreted as an intensive form, but in the second and example it would not make sense (or at least results awkward translations), hence another interpretation seems more appropriate.

This is also a counterexample for the reduplicated form of stem alternating verbs: since the lions and panthers are part of the same object, a door, a distributive meaning is not justified, thus the verb stem is not reduplicated.

Consider the following example:

(140) Utu-hegal 4: 33-34
In this case the plurality of the head noun is not pluralized by an enclitic, and an intensive meaning would not make sense, either, thus the plural interpretation is favoured.

A very similar function is – of course – verifiable for finite forms:

(141) Enmerkar and the lord of Aratta: 328

sa-al-kads-e  igi  im-mi-in-tur-tur

salkad=e  igi=Ø  i-m-b-i-n-tur-tur=Ø
net=L3  eye=ABS  FIN-VENT-3.PL.NH-L3-3.SG.H.A-to be small.RDP-3.SG.P

“He narrowed the meshes of the carrying nets.”

In this sentence, the plural interpretation seems to be the most obvious, since a net has many meshes, and both a spatial distributive reading (’He narrowed the meshes on different parts of the carrying nets’) and an intensive reading (’He made the meshes very narrow’) seems odd.

The examples above do not suggest that an increased intensity interpretation is excluded in the case of certain reduplicated stative verbs. States are especially prone to have an intensive interpretation since this is one of the more important cognitive dimensions of the perceptualization of notions expressing qualities. The following examples exclude a plural or a distributive interpretation:

(142) Bur-Suen 1: 1-2

d^bur-^suen  sipad  šag₄  nibru^ki  dug₃-dug₃
Bur-Suen  sipad  šag  Nibru=ak  dug-dug=Ø
RN  shepherd  heart  GN=GEN  to be good.RDP-PRS.PTC

“Bur-Suen, the shepherd who makes the heart of Nibru utterly content”

(143) Išme-Dagan A+V: 119
ud dug3-dug3-ga-ni-še3 maš2-e he2-em-mi-in-pad3-de3-en
ud dug-dug=ani=še maš=े ha-m-b-i-n-pad-en
day to be good.RDP=3.SG.H.POSS=TERM extispicy=L3 MOD1-VENT-3.NH-L3-3.SG.H.A-to choose-1.SG.P

“On his most favourable day he chose me by extispicy.”

(144) The Lament for Urim: 323

agrunkug e2 gibil-gibil-la-ğu10 la-la-bi nu-gi4-a-ğu10
Agrun-kug e gibil-gibil-’a=ğu lala=bi=Ø nu-gi-’a=ğu
TN house to be new.RDP- plenty=3.SG.NH-POSS=ABS NEG-to return-
SUB=1.SG.POSS SUB=1.SG.POSS

“O my Agrun-kug, the all-new house whose charms never sated me”

(145) En-metena 1: i 16-17

nam-inim-ma dirig-dirig-še3 e-ak
naminim=ak dirig.dirig=še i-ak
wording=GEN exceed.RDP=TERM FIN-do

“(he) acted in an exceedingly audacious manner”

The NP of the three sentences above uniformly have a singular head – (literally) the heart of a city, a day, and a temple respectively – which excludes any type of plural or distributive reading for the reduplicated stative verb stems. The fourth sentence differs in that the NP refers to an abstract entity, behaviour; it is still logical to assume that the clause speaks about an intense form of the referred entity instead of plurality.

Actually, even if one does not accept the idea that adjectival concepts are expressed by (mostly non-finite forms of) stative verbs, this duality of functions can be very strongly supported by grammaticalization studies: both all > plural, and all > superlative are well established grammaticalization paths,132 thus, assuming an original collective function of adjective reduplication, both meanings can be derived from it.

There is no hard and fast rule that determines the choice between participant plurality and increased intensitivity. If the head noun refers to a singular entity then any kind of plural or distributive reading is excluded by default. If the (human) head noun is

pluralized by the enclitic ene, the default interpretation is that of increased intensity. If the head noun does refer to an entity with a non-determined number value (general number) both interpretations are possible. In these cases I suggest that separable physical entities with easily perceivable plurality are more likely to gain a plural interpretation, while abstract entities are more likely to gain an intensive interpretation.

Often the principles behind reduplicating a stative verb are not clear to us. Consider the following examples:

(146) Enki and the world order: 227

\[
\text{me gal diği̇r-re-e-ne-ke}_4 \quad \text{šu} \quad \text{he}_2^{2-}\text{-em-mi-du}_7
\]

\[
\text{me gal diği̇r-ene=ak=e šu=Ø} \quad \text{ha-i-m-b-i-b-du-e}
\]

divine power to be big god=PLUR=GEN=L3 CVNE=abs MOD1-FIN-VEN-3.NH-L3-3.SG.P-

to be suitable-3.SG.H.A

“The great powers of the gods shall be made perfect”

šu du₇: to complete

(147) Inana C: 8

\[
\text{me gal-gal} \quad \text{šu} \quad \text{du}_7
\]

\[
\text{me gal-gal-Ø} \quad \text{šu=Ø} \quad \text{du-Ø}
\]

divine power to be big.RDP-PRS.PTC CVNE=ABS to be suitable-PRS.PTC

“She makes perfect the great divine powers”

šu du₇: to complete

The two examples above have the same structure, and the same main verb, and – what is more important for us – the same meaning. It is difficult to explain why in example (146) the stative stands in its simple form, and in example (147) in the reduplicated form. Example (148) has both simple and reduplicated stative verbs in the modifier position:

(148) Nuska A: 10

\[
\text{me kug me mah me}
\]

\[
\text{me kug me mah me}
\]

divine power pure divine power great divine power

---

133 See Corbett 2000: 9-18. I argue that non-human nouns in Sumerian do not have a singular, instead they have a general number (I discuss this problem in my thesis in details).
“the holy divine powers, the august and most complex divine powers, the divine powers of the father, of the Great Mountain”

It is widely assumed in sumerology that me is a collective noun, referring to the obscure 'divine powers', or the ‘radiation’ emitted by supernatural and sacred beings. Accepting this standpoint, the difference between the meaning of the simple and the reduplicated form is most probably that of intensity. It is not clear, though, why these powers are mentioned in the intensive form in certain texts, and not in others; it may be a stylistically driven difference and lies outside of the scope of this study.

5.4.5.8 State verbs

A small group of verbs expressing states, like tuku, 'to have', zu ‘to know’, or til₃ 'to live' also have reduplicated exemplars. In many cases this is the marker of the present-future tense, hence not a case of VeP. Other examples, however, express some type of pluractionality, but it is not obvious what exact function they serve. The most palpable assumption is that these show the same values of VeP as stative verbs. If so, we would expect the pluractional form of til₃ and tuku to mark participant plurality, and zu to mark increased intensity, since the subject of living is typically a living creature, a physical entity, as is the object of ownership, while the object of knowing is an abstract entity. Of course, depending on the subject/object, the interpretation may vary. Consider the following examples:

(149) Gudea Statue E: ii 3-4

nam-mah  nin-a-na  mu-zu-zu
nammah  nin=ani=ak=Ø  m-n-zu-zu=Ø

“ (Gudea) has made his lady's exaltedness widely known” -mt

(150) Proverbs: collection 2 + 6: 6

[sag]  [sar-ra]  #siki  ba-an-tuku-tuku
sag  sar-'a  siki=Ø  ba-n-tuku-tuku=Ø
“He who shaves his head acquires ever more hair.”

(151) The marriage of Martu: 29

\[
\text{dub}_3-\text{sa-} \text{₂̣u}_10-\text{ne-me-en} \quad \text{dam} \quad \text{ba-an-tuku-tuku-me-eš}
\]

\[
dubus\text{a}=\text{gu}=\text{ene}=\text{men} \quad \text{dam}=\text{Ø} \quad \text{ba-n-tuku-tuku-meš}
\]

\[
\text{companion}=1.\text{SG.POSS}=\text{PLUR}=1.\text{SG.COP} \quad \text{spouse}=\text{ABS} \quad \text{MID}=3.\text{SG.H.A-to} \quad \text{have.RDP-3.PL.COP}
\]

“my mates, they all have already married wives”

In the first example it is obvious that the object ‘exaltedness’ cannot be pluralized, so an intensive reading seems obvious, although it is not entirely clear, what makes the intense form of making something known. On the other hand, the addressee of the proclamation is presumably plural, although not the direct object of the sentence, but the (non-overt) indirect object.

The second and third examples are more clear, though in the case of the second one it can be a question how to interpret the plurality of a substance with no clearly distinguishable pieces, like hair. Thus, both an intensive (‘hair growing more densely’), and a participant-plural (‘more hair growing’) reading is acceptable.

(152) Amar-Suena 2008: o 3

\[
\text{nin} \quad \text{lu}_2 \quad \text{til}_3-\text{til}_3
\]

\[
\text{nin} \quad \text{lu} \quad \text{til-til-Ø}
\]

lady person to live.RDP-PRS.PTC

“the life-giving lady” (Lit.: ’the lady making people live’)

(153) Letter from Inanaka to the goddess Nintinuga: 5

\[
\text{nin} \quad \text{šag}_4-\text{ne-} \text{ša}_4 \quad \text{lu}_2 \quad \text{til}_3-\text{til}_3
\]

\[
\text{nin} \quad \text{šagneša} \quad \text{lu} \quad \text{til-til-Ø}
\]

lady intercession person to live.RDP-PRS.PTC
šudud=e ki=Ø ağ-Ø=ra
prayer=L3 CVNE=abs to measure-PRS.PTC=DAT.H
“to the relenting lady, who loves to revive the people and loves supplications”
ki ağ₂ ’to love’

In these two examples the self-explanatory solution is that the reduplicated verb refers to the lives of a multitude of people.

Another possible interpretation of the pluractional form of this class of verbs is that in these cases, reduplication increases transitivity of the verb, that is, changes its valence. This process is highly relevant to the semantics of the verb, therefore it may trigger significant changes in the meaning of the verb. This is mirrored in the more or less idiosyncratic translations of these sentences, as zu-zu ’to proclaim, inform’ or til₃-til₃ ’to revive’. The problem with this explanation is that in Sumerian intransitive verbs can be used transitively by using the appropriate pronominal markers and the sufficient number of participants (an agent and a patient); transitive verbs can be used as ditransitive (causative) verbs by adding an indirect object (and the appropriate pronominal markers). Hence – although causative is not unusual cross-linguistically among the secondary functions of VeP – it is not needed to explain the reduplication of state verbs in Sumerian.

134 Cf. Yoshikawa 1993a, under the heading „causative reduplication”.
135 See Bybee 1985: 20: „Valence-changing categories such as transitive, intransitive and causative are highly relevant to the situation described in the verb stem […] The change is sometimes dramatic, as in the case of causatives discussed above, predicting a tendency toward lexical expression of valence categories”.
6. Lexicalized nouns with a reduplicated verb as base

6.1 General remarks

There are many nouns in Sumerian that has a reduplicated verb as their base. Some of these nouns consist only of the bare reduplicated verb, others have additional elements, mostly nouns or grammatical elements such as the subordinating or nominalization suffix -'a (examples for pure verb base: šir-šir, 'chain, straps', ġar-ġar 'accumulation'; with a noun: niğ₂-sa-sa 'oven, brazier', en₃-du-ġar-ġar 'composer'). I argue that these deverbal nouns are lexicalized from verbs reduplicated for verbal plurality. The meaning conveyed by reduplication plays an important role in the meaning these nouns, since the entities referred to by the nouns are named after a typical (habitual) action or - in the case of stative verb bases – constant, or significant characteristics of the entity. This type of naming is a well-known metonymic process in onomasiology and in semantic change. Thus these constructs provide important evidence for the presence of verbal plurality in early Sumerian.

It must be noted that many forms which contain the doubling of a noun or a verb cannot automatically used as evidence for the presence of reduplication. The list of words below is restricted to those that are at least presumably have the reduplicated form of a verb as a source. Thus I excluded the following types:

- Loanwords from Akkadian. Obviously these only represent the sound form of an Akkadian word.
- Onomatopoeic words. Again, these represent a sound form without the semantic elements conveyed by reduplication for verbal plurality or marû.137
- “Incidental reduplication”: words in which the reduplication does not occur by morphemic duplication. Many cases are ambiguous in this respect, so generally I accept ortographic evidence.
- Words with unknown meaning.

136 Already Edzard (1971 and 1972) realized that reduplicated forms can lexicalize and thus enter the Sumerian lexicon: “…die freie Reduplikation in Einzelfällen auch erstarrt, lexicalisiert sein konnte, wobei sie dann nicht mehr rückgängig zu machen war.” (Edzard 1971: 232.) Cf. also Thomsen 2001: 58.
137 Cf. Michalowski 2004: 31. It is interesting to note that although Michalowski lists certain word-formation processes through reduplication, onomatopoeia and color names among others, he makes no mention of the type investigated here.
• Words without a semantic link between the meaning of the verbal root and the reduplicated form. Actually some of these may be originated in productive reduplicative constructions, but this cannot be proven.
• Marû-reduplications.
• Words with unknown reading.
• Words where the simple form of the reduplicated verbal element is not attested. These also may have emerged from reduplicated verbs, but since the meaning of the base verb cannot be recovered, they cannot be used as attestations of lexicalized verbal reduplication.

6.2 Temporal distribution

The examples of lexicalized reduplicated forms come from all periods of written Sumerian. Not surprisingly they occur in the lowest number in the ED III period, and the greatest amount of data comes from the OB period. Still, examples are attested from all periods which means that the phenomenon itself was present from early periods. Most probably many of these lexemes emerged in the pre-writing ages of the Sumerian language. For those examples which are attested only from later period, the date of lexicalization cannot be safely estimated; I assume that – as it is usually the case in all languages – lexicalization was an ongoing process throughout the history of spoken Sumerian.

<table>
<thead>
<tr>
<th>Type frequency</th>
<th>ED III</th>
<th>Sargonic</th>
<th>Ur III</th>
<th>OB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Token frequency</td>
<td>61</td>
<td>76</td>
<td>131</td>
<td>171</td>
</tr>
</tbody>
</table>

Table 9: temporal distribution of nouns with a reduplicated verb as a base.

The table above shows an almost steady increase in both type and token frequency. OB lexical lists undoubtedly have a very important role in this distributional pattern, since many lexemes are attested only in these texts. It is an interesting, but unfortunately unanswerable question whether the types attested only in the OB period are creations of Akkadian scribes, or records of words used already in the 3rd millenium.

138 The full list of nouns with philological comments are to be found in appendix 4.
139 Numbers calculated from the database of ePSD. Last revised 2012.01.30.
6.3. Morphological structure of the constructions

There are different structural and semantic types of lexicalized reduplicated verbs (or, more precisely, participles) which can be summarized in the following schemes:

\[(N+)[[X]_{V(stat)}[X]_{V(stat)} + [Ø/'a]_{PTC}]] \rightarrow 'Xer'N\]

\[(N+)[[X]_{V(stat)}[X]_{V(stat)} + [Ø/'a]_{PTC}]] \rightarrow 'an intensely X entity'N\]

\[(N+)[[X]_{V(stat)}[X]_{V(stat)} + [Ø/'a]_{PTC}]] \rightarrow 'the result of doing/being X'N\]

\[(N+)[[X]_{V(stat)}[X]_{V(stat)} + [Ø/'a]_{PTC}]] \rightarrow 'X on multiple Ns'N\]

I will argue that every construction more complex than these are built on these four types semantically, that is, they are added to the whole complex modified by the reduplication.

The first question to answer about the constructions above is this: how do we know that these are lexicalized items, and do not belong some other type of construction? In other words, what type of word-formation process should be assumed that leads to the final form and meaning of these lexemes? There are several possible analyses.

In the case of constructions including bare participles of reduplicated verbs, they can be analysed as a reduplicated verb converted into nouns by zero derivation: e.g. šir-šir-Ø-Ø, that is [to bind.RDP-PRS.PTC-DER]V -> [to bind.RDP-PRS.PTC-DER]N. The point of this solution is that many derivational markers change the lexical category of a construction, although it is not their only (and primary) function.\(^{140}\)

There are more possible analyses concerning the constructions that also contain a noun.

- They can be understood as syntactic constructions: niğ tuku-tuku-Ø, that is [niğ]N [[tuku-tuku]V-PRS.PTC]PTC In other words we can assume a head noun – modifier construction.\(^{141}\)

- Or they can be analysed as compound nouns: niğ-tuku-tuku-Ø which has the same analysis except that as Sumerian compounds are left-headed, it will be a noun.\(^{142}\)

- And of course the derivational zero can be assumed here too: niğ tuku-tuku-Ø-Ø that is thing to have.RDP-PRS.PTC-DER.

\(^{140}\) Cf. Hopper – Traugott 1993: 5.

\(^{141}\) Which would be the preferred description according to Krecher 1987.

\(^{142}\) The fusion of syntactic phrases into compound words is a well-known phenomenon and usually regarded as a type of lexicalization, cf. Brinton-Traugott 2005: 47-50.
A technical problem with this explanation comes from Sumerian grammar: zero is a highly burdened morpheme. It is the marker of a) the absolutive case, b) present participles, c) 3.SG patients. A fourth function of the zero (or a fourth zero marker) would even increase this complexity of functions.

Another option is to regard these constructions as examples of conversion (or „conceptual recategorization”, cf. Štekauer 2005: 220) instead of zero derivation. Conversion „typically involves derivation from one major class item to another” (Brinton – Traugott 2005: 37). According to Blank (2001: 1604), conversion is a type of lexicalization; hence if we accept that the shift of one major word-class (V) to another (N) is conversion in these cases, then they can be regarded lexicalized deverbal nouns.

It could be argued, however, that constructions without a noun as a head are all elliptic, and should be complemented with a head noun. This argument could be fortified by the distribution of the different construction types (see chapter z.z. below), where it can be seen that the contructions with a head noun are the central items of this group of lexemes. In most cases the nouns lu₂ 'person', niğ₂ 'thing', or words we interpret as determinatives (e.g. mušen 'bird', ku₆ 'fish' etc.) are perfect candidates as heads. If one accepts this explanation, then the process of conversion is replaced with ellipsis – also a type of lexicalization (see also Brinton – Traugott 2005: 40-41).

As for the head noun-modifier interpretation of those constructions that contain a noun, certain tests that distinguish between phrases and compound words (Matthews 1991: 93-100) are applicable here. Both orthographic and phonetic (stress pattern) criteria are excluded, of course, hence we have to rely mainly on morphosyntactic and semantic criteria. One of the possible morphological criteria is that the building lexemes of compounds cannot be inflected separately (Matthews 1991: 94-95). As far as it can be judged, this criterion applies to the constructions above, but since there is no native speaker available, it cannot be fully tested. On the other hand, since Sumerian inflectional markers are enclitics attaching to the end of the NP, counterexamples would be ungrammatical (like *lu=ene-sag-sag-Ø, person=PLUR-to beat.RDP-PRS.PTC 'drummers'). Another criterion is of

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143 For the difference between conversion and zero derivation see Bergenholz – Mugdan 2000.
144 For a summary of the general linguistic discussion of zero derivation vs. conversion, see Lieber 2005. For an overview of lexicalization see Lehman 2002, Talmy 2007.
145 Defined as “a type of semantic innovation by which a simple lexeme that is part of a complex word is also used in the sense of this complex word.” by Blank (2001: 1604). Usually the complex word has to be reconstructed by analogy of other complex word in Sumerian.
semantic nature: phrases are more transparent than compounds. The constructions above show a wide variety of transparency: some are almost fully transparent, like niğ₂-dim₂-dim₂ 'manufactured object’, or niğ₂-kal-kal 'very valuable’ others are less transparent like certain bird names, e.g. inim-bal-bal 'a bird’ or 'talkative bird’, or šu-gur-gur 'purification ceremony’. Many of these are agentive or instrumental in meaning which is not marked by any overt derivative element, so it can be said that this criterion favours a compound word interpretation.¹⁴⁶

As it can be seen there is no obvious answer to the question whether the constructions containing a noun above are phrases or words; and there are several possible explanations to the process by which participles of bare reduplicated verbs become a noun. The arguments above suggest that assuming a derivational zero is not necessarily the best way to describe the process; conversion or ellipsis are both possible and plausible solutions. The semantic criterion for distinguishing between phrases and compound words – although not unambiguously – suggests that they are compounds. It can be seen that there may be complex semantic and morphological processes behind a seemingly simple structure, and it is not always possible to give one exclusive explanation.

6.3.1 The constructional approach

To circumvent this problem of uncertainty regarding the morphological status of these lexemes (syntactic structures vs compounds), which, in lack of native speakers, cannot be definitely solved, I suggest to handle these items as constructions in the sense of Construction Morphology (Booij 2010).¹⁴⁷ According to this approach different constructions can be set up defined by their formal and semantic side. For constructions containing only the reduplicated verb a construction will look like this:

\[[[X_i]_V + [X_i]_V + [\emptyset]]_{PTC}]_N \leftrightarrow [X_i\text{er}, \text{something/someone that always }X_i\text{er}]_N\]

This formula states that the participle of the reduplicated form of a verb is a noun with an agentive/instrumental meaning. An example of this type of construction would be šir-šir

¹⁴⁶ The ones with no transparency at all are excluded from this study, since they cannot be connected to the grammatical phenomenon I investigate. Although these may provide further support to the argument, their origin (the grammatical construction which they lexicalized from) cannot be identified.

¹⁴⁷ For solving the problem of choice between morphological constructions in construction morphology see also Booij 2004.
'chain'. Another construction can describe certain examples with an object noun and a reduplicated state verb:

\[ [X]_{N_j} + [[[X]_V + [X]_V]][V + [\emptyset]]_{PTCj} \leftrightarrow \text{[someone who Vs a plurality of N}_j]\]

This line declares that there are certain construction in which a non-human noun followed by a reduplicated verb means that the verb \( V_i \) is true to a number of nouns \( N_j \). An example to this construction is \( \text{niğ}_2\text{-tuku-tuku}^{148} \) 'a very rich person'.^{149} This type actually is an instance of ellipsis, too (which is a type of lexicalization, see Brinton – Traugott 2005: 40-41), since it refers to a person, thus a full form it looks like \( \text{lu}_2\text{-niğ}_2\text{-tuku-tuku} \), and it is actually written this way in the OB period. The meaning of this type is not fully predictable, since without the missing \( \text{lu} \) 'man' it could mean something like 'a thing that many own'.

It is important to note that there is no one-to-one correspondence between construction forms and meanings. For instance, the construct \( \text{niğ}_2\text{-kal-kal} \) 'to be very valuable, precious' (<\( \text{kal} \) 'to be valuable') has the same morphological form as \( \text{niğ}_2\text{-tuku-tuku} \), although the former is not an example of the construction above, it cannot even be interpreted according to the semantics of this construction. A similar problem arises with the construct \( \text{niğ}_2\text{-sa-sa} \) 'oven' (<\( \text{sa} \) 'to roast'). An oven is not a person who roasts a multiplicity of things, but an instrument of this activity. This, of course, can be regarded as a case of constructional polysemy (cf. Booij 2010: 79-84), which can be explained by the different semantics of the base verbs: \( \text{tuku} \) 'to have' is a transitive state verb, \( \text{kal} \) 'to be precious' is an intransitive stative verb, and \( \text{sa} \) 'to roast' is a transitive active verb. This suggests that a more refined classification of constructions is needed to describe this group of constructs.

Since full reduplication is the marker of verbal plurality in Sumerian, it is reasonable assume that these nouns originate from a pluralized verb. It has been shown in chapter 4 and 5 that lexical aspect plays an important role in verbal plurality, it is a plausible starting point in the analysis. We established different values of VeP (based mostly on Wood 2007): event-internal, event-external and intensive plays an important role

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148 Constructs with \( \text{niğ}_2 \) are complicated by the fact that this element is a noun and – at least according to many Sumerologists (including the author) – a derivational morpheme forming concrete nouns. In these constructions I assume that it is the noun that we are dealing with, but it must be noted that considering it a derivational morpheme would not invalidate the argumentation.

149 I use the term 'construction' to the abstract frames, and the term 'construct' to the concrete realizations of constructions.
in the classification of these lexemes. It will be seen that other types of verbal plurality and related concepts (resultative) are also present in the forming of the constructions.

6.3.2 Classification based on types of verbal plurality

6.3.2.1 Event-external

The largest group of constructs contain a reduplicated accomplishment verb. The pluraclional form of these verbs are typically event-external plurals in Sumerian with a possible habitual connotation. Most of these denote agent or instrument nouns, a well-known case of construction polysemy (see Booij 2010: 80-84, Basilio 2009). On the formal side, however, they seem to be rather diverse:

(1) \[
[[[X]_V + [X]_V] + \emptyset]_N \leftrightarrow [V\text{-}er', 'who habitually Vs']
\]
\[
\leftrightarrow [V\text{-}er', 'that habitually Vs']
\]

These types are not well-attested (since they are most probably elliptic constructions, as we will see below), a couple of examples are \[\text{lu-ar}_3\text{-ar}_3\] 'miller' < \[\text{ar}_3\] 'to grind'; \[\text{kaf-}\text{šir}_3\text{-šir}_3\] 'chain' < \[\text{šir}_3\] 'to bind', \[\text{kinkin} 'grinder' < \text{to grind}, \text{gir}_5\text{-gir}_5\] 'rod/snake' < \[\text{gir}_5\] 'to slip, glide'.

Among the constructs with an accomplishment verb base, those with an object or subject noun are more frequent.

(2) \[
[[X]_N] + [[[X]_V \times [X]_V]]_V + [\emptyset]_{PTC} \leftrightarrow [[\text{someone who regulary Vs N}', 'V\text{-}er']_N
\]
\[
\leftrightarrow ['\text{something that regulary Vs N}', 'V\text{-}er']_N
\]

Examples are:, \[\text{en}_3\text{-du-dug}_4\text{-dug}_4\] 'chanter' < \[\text{en}_3\text{-du} 'song' + \text{dug}_4 'to say', \text{en}_3\text{-du-ğar-ğar} 'composer' < \[\text{en}_3\text{-du} 'song' + \text{ğar} 'to put', \text{gab-zu-zu} 'expert' < \text{kab} 'test' + \text{zu} 'to know', \text{niğ}_2\text{-sa-sa} 'brazier' < \text{niğ}_2 'thing' + \text{sa} 'to roast', \text{inim-bal-bal} 'talkative bird' < \text{inim} 'word' + \text{bal} 'to turn', \text{li-li-gi-sig}_7\text{-sig}_7 'a bird' < \text{li-li-gi} 'a cucumber-like plant' + \text{sig}_7 'to pluck'.

Certain recurring constructs can be described as subtypes of construction (2), e.g.

(2a) \[\text{lu} N_j + [[X]_N] + [[[X]_V \times [X]_V]], [\emptyset]_{PTC} N_j \leftrightarrow [\text{someone who regulary Vs} N', V\text{-}er']_N
\]

(2b) \[\text{lu} N_j + [[X]_N] + [[[X]_V \times [X]_V]], [\emptyset]_{PTC} N_j \leftrightarrow [\text{someone who regulary Vs} N', V\text{-}er']_N
\]

where the non-compulsory \[N_k\] element is usually an object noun.
lu₂-sag₃-sag₃ 'drummer' < lu₂ 'person' + sag₃ 'to beat', lu-hal-hal-a 'slanderer, scandalmonger' < lu₂ 'person' + hal 'to divide'. lu₂-ḡi₆-a-du-du < lu₂ 'person' + ḡi₆ 'night' + ḡen 'to go',¹⁵⁰ lu₂-a-tar-la₂-la₂ < lu₂ 'person' + a-tar 'derision' + la₂ 'to show, display', lu₂-lul-lul 'liar' < lu₂ 'person' + lul 'to be false', (lu₂)-maš-šu-gid₂-gid₂ < (lu₂ 'person') + maš 'goat' + šu gid₂ 'to examine'.¹⁵¹

It can be seen that there is no direct one-to-one correspondence between the form and the meaning of a construction. Constructs with a non-human noun head (en-du 'song', niḡ₂ 'thing', inim 'word') can be either agent or instrument types; on the other hand, those with lu₂ 'person' are always agent nouns (for further examples see below). Actually the agent nouns of the former type (with a non-human head) may be interpreted as elliptical forms, where the element lu₂ is not written but should be supplemented. This assumption is supported by the different writings of (lu₂)-maš-šu-gid₂-gid₂ with and without lu₂, but cannot be positively proved since we have only one attestation for many constructs.

These forms show a very close resemblance to the derivative element –er in English. It takes verbs as bases, and produce nouns as output, with similar meanings to that of –er derivatives.

6.3.2.2 Event-internal

There are only a few constructs with a semelfactive/achievement, i.e. instantenous verbal base. These verbs are often inherently repetitive (cf. Wood 2007: 4, 10), thus this is the default interpretation of the pluractional form. These constructs can be divided into two types: one is clearly iterative, and is represented in (3):

(3) \[ [[X]_v + [X]_v] + ['a']_{PST\text{-}PTC}N \leftrightarrow ['\text{something repeatedly } V\text{s}']_N \]

Examples are: dub₂-dub₂-bu₃mušen 'bat' < dub₂ 'to tremble'.

The other type involves repetative reduplication, but the output is resultative:

(4) \[ [[X]_{nj} + [[X]_{vi} + [X]_{vi}]]_v + ['a']_{PST\text{-}PTC}N_{nj} \leftrightarrow [\text{the result of something repeatedly } V\text{-ing}]_N \]

še-hal-hal-la 'threshed grain'< še 'grain'+ hal 'to divide, distribute', lu₂-kur-kur-ra < lu₂ 'person' + kur₂ 'to be different'

¹⁵⁰ du is the marû form of ġen.
¹⁵¹ The element maš 'goat' is not surprising because extispicy was a widely known method of divination in ancient Mesopotamia.
(5) \([\text{n}]_{\text{INFL}} + [[X]_{\text{V}} + [X]_{\text{V}}]]_{\text{N}} \leftrightarrow \text{[the result of something repeatedly V-ing]}_{\text{N}}
\text{in-bul5-bul5} \text{ 'chaff, hay, straw' < 3.SG.A + bul5 'to winnow, sift'}

It is an interesting case where a grammatical (inflectional) element which refers to the agent is part of the lexicalized form, although the noun is not agentive, but a deverbal result noun.

6.3.2.3 Result nouns

It is not surprising to find resultative verbs among lexemes derived by conversion (Lieber 2005: 422; Štekauer 2005: 221). It’s also acceptable the other way around, since conversion works both in the N → V and the V → N direction. It is surprising, however, to find these construct among these type, since this function is not involved in VeP in Sumerian. Since this type of conversion is not restricted to nouns originate in reduplicated verbs (as is proven by many nouns, e.g. \(\text{nīgba} \text{'gift'} < \text{nīg}_2 \text{'thing'} + \text{ba} \text{'to allot'}\)), it is not obvious whether this meaning is derived from the reduplication or the conversion. The problem is complicated further by the fact that it is not unprecedented for the same word-formation pattern to serve the function of VeP and resultative: it is the case, for instance, with the Hebrew pi’el (Jenni 1968),\(^{152}\) or a certain suffix in Sandawe (Kießling 2002: 16).

The following patterns can be found among result nouns:

(6) \([[X]_{\text{V}} + [X]_{\text{V}} + [\text{a}]_{\text{PST.PTC}}]]_{\text{N}} \leftrightarrow \text{[(someone with) a property that is a result of V]}_{\text{N}}
\text{kud-kud-ra} \text{ 'cripple’ > kud ‘to cut, break off’,}

(7) \([[X]_{\text{V}} + [X]_{\text{V}} + \text{Ø}]]_{\text{N}} \leftrightarrow \text{[(something with) a property that is a result of V]}_{\text{N}}

with a subtype (7a):

(7a) \([[X]_{\text{Nj}} + [[[X]_{\text{vi}} + [X]_{\text{vi}}]_{\text{V}} + [\text{Ø}]]_{\text{PTC}}]]_{\text{Nj}} \leftrightarrow \text{[Nj, that is a result of V]}_{\text{Nj}}
\text{mu7-mu7 ‘noise’ < mu7 ‘to make noise’, ši-ši ‘defect’ < ši ‘to become tired’, niğ2-dim2-dim2 < niğ2 ‘thing’ + dim2 ‘to create’, niğ2-dug4-dug4 ‘speech’ < niğ2 ‘thing’ + dug4 ‘to say’,}
\text{u2-du3-du3 ‘reed bundle’ < u2 ‘reed’ + du3 ‘to build’}.

A slight variation of the construction above is one where the base verb is a compound verb:

\(^{152}\) Cf also Yoshikawa 1993, where Yoshikawa mentions the resultative function of the D-stem, but he does not find a clear-cut connection to Sumerian pluractionals.

The next construction also contains a compound verb and the derivational element nam-:


nam-kud-kud-ra < nam kud ‘to curse’

6.3.2.4 Intensive forms

Intensive forms are not surprising to find among our group of constructs, since this is an established function of VeP in Sumerian (cf. chapter 5 above). These constructs are based mostly on stative verbs, as expected. In certain cases the explanation is admittedly speculative: especially with the fish and bird names, since we do not now the exact species of the animals referred to by the constructs below, it cannot be said with certainty that e.g. their size, voice or plumage was a salient feature. The interpretation, hence, is partly based on the logic of the other constructs.

(9) [[[X]v₁ + [X]v₁] + Ø]Nj ↔ [an entity that is very V₁]Nj

dug₄-gur₄ ‘a vessel’ < gur₄ ‘to be thick’, gur₄-gur₄kas ‘a fish’ < gur₄ ‘to be thick’, gur₄-mušen ‘a bird’ < gur₄ ‘to be thick’, mušen tur-tur ‘a bird’ < tur ‘to be small’

(10) [[[X]V + [X]V] + [am]COP]N ↔ [an entity that is very V₁]Nj

sed-sed-am₃ ‘early morning’ < sed ‘to be cold’


nam-zil₂-zil₂ ‘pleasantness’ < zil₂ ‘to be good’

(12) [[X]Nk +[[X] v₁ + [X] v₁]]Nk + [Ø]PTCNj ↔ [an entity with an intensely V₁ Nk]N

gu-gal-gal ‘a bean’ < gu ‘stalk’ + gal ‘to be big’

(13) [[X]Nj +[[X]Nk +[[X] v₁ + [X] v₁]]Nk + [Ø]PTCNj ↔ [Nj in a relationship with an entity Nk that is very V₁]Nj

lu₂-ma₂-gal-gal ‘a boatman’ < lu₂ ‘person’ + ma₂ ‘ship’ + gal ‘to be big’
This last type can be analyzed as \( \text{lu}_2 + \text{ma}_2\text{-gal-gal} \), and in this case it can be described as a compound with a variation of type (12).

### 6.3.2.5 Participant plurals

One of the main functions of pluraclonals of state/stative verbs is the expression of participant plurality which usually marks the plurality of the most affected participant (patient). There are only a few constructs that seem to be based on this type of VeP, and those are based on state verbs.

\[(14) \left[\text{N}_j + \left[\left[\text{V}_i + \text{N}_j\right]\text{V} + \left[\emptyset\right]\text{PTC}\right]\text{N}_j \leftrightarrow \text{a plurality of N}_j\text{S V}_i\text{ed}\right]\]

\(\text{nîglala} \) ‘earrings’ < \(\text{nîg} \) ‘thing’ + \(\text{la}_2\) ‘to hang’

\(\left[\left[\text{N}_j + \left[\left[\text{V}_i + \text{N}_j\right]\text{V} + \left[\emptyset\right]\text{PTC}\right]\text{N}_j \leftrightarrow \text{someone who Vs a plurality of N}_j\right]\right]\)

\(\text{nîg}_2\text{-tuku-tuku} \) ‘very rich’ < \(\text{nîg}_2\) ‘thing’ + \(\text{tuku} \) ‘to have’

### 6.3.3 Semantic operations in the forming of the constructs

The constructs above exhibit different degrees of idiomacity, that is, their meanings differ in the extent of predictability of the parts they consist of. Idiomacity characterizes complex word-forms by definition: “… complex words are never fully predictable from their components” (Blank 2001: 1599). According to Blank, there are three degrees of idiomacity:

1. Words that „realizes one of the possible combinations of the literal meanings of the combined words” (Blank 2001: 1599).
2. At a higher degree of idiomacity “[T]he sense of the complex word is still based on the usual meanings of the simple lexemes, but on the referential level we find rather untypical, specialized representatives of the designated category” (Blank 2001: 1599).
3. The highest degree of idiomacity is exhibited by metaphorical and metonymic mappings: „In these cases, one component of the complex word as a whole has to be interpreted by establishing a conceptual contiguity or similarity as regards the literal reading” (Blank 2001: 1599).

I argue that most of these constructs belong to the third group, since they are exemplars of well-known metonymies.\(^{153}\) For different VeP-types different metonymies

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\(^{153}\) For a (certainly non-exhaustive) list of metonymies see Stefanowitsch – Gries 2006: 403-406.
provide the key to the meaning of the construct itself. The constructs, thus, are result of a complex series of semantic operations, involving derivation of pluractionals by reduplication, and conversion with a metonymic interpretation. This latter process is also well-known, as conversion in e.g. English is described in terms of metonymy (Dirven 1999). In this process one of the salient features of an entity is profiled, and used as the onomasiological base for naming the entity.

For types 1. and 2., those involving repetitive (event-internal (iterative) and event-external (habitual) meaning the conceptual metonymy exemplifies ACTIVITY FOR AGENT\(^{154}\) and ACTIVITY FOR INSTRUMENT.\(^{155}\) This is explicated and/or specified more or less by the nouns in the constructions.

For type 3., result nouns, the relevant conceptual metonymy is ACTION FOR RESULT. In these cases the construct refers to the result of the event named by the verb. The presence reduplicated stem is, however, confusing, and remains partly unexplained in this type. With certain constructs, like kudkudra 'cripple' or mumun 'noise', an intensive function is plausible, although the second one is based on mu\(^7\) 'to make noise' which is an activity and not a state verb. But others, such as niğdugdug 'speech' cannot be explained this way.

Type 4. and 5., constructs with an intensive form of a stative verb and those with a participant plural interpretation are based on the metonymy PROPERTY FOR A THING THAT HAS THE PROPERTY (Radden 2009: 222). In these cases the onomaisiological basis is the intensity of the property which makes it salient enough to name the entity, and the plurality of entities involved in the property.

6.4 Distribution, type-frequency, productivity

6.4.1 Constructions and verbal plurality

The constructions introduced above can be reduced to four basic types: those with the bare reduplicated verb as a base, and those with one or more noun as a head. Both types may have a present participle ending (Ø) or suffixed for past participle (-'a). The combinations of these factors provide the four variations below.


Table AQ show the distribution of the construction-types among different VeP values, and the type-frequency of each types.

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<th>event-external</th>
<th>event-internal</th>
<th>result</th>
<th>intensive</th>
<th>participant plural</th>
<th>sum</th>
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<td>2</td>
<td>5</td>
<td>7</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
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<td>1</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>(N+)N+V+V+Ø</td>
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<td>2</td>
<td>29</td>
</tr>
<tr>
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<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
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<td>sum</td>
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<td>6</td>
<td>15</td>
<td>12</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Table AQ: verbal plurality values and construction types

It can be seen that (N+)N+V+V+Ø occurs with the most VeP types, and the types with the subordinator –’a are the most restricted in use. It is interesting that there is a sharp contrast in the extent of (N+)N+V+V+Ø and (N+)N+V+V+’a; this phenomenon may be related to the semantics of the different types of participles: present or tensless participle fits to the agentive/instrumental semantic range, but see Jagersma 2010: 127-128 on deverbal noun formation with and without –’a. V+V+Ø and N+V+V+Ø are both more frequent, and accepting the method of measuring productivity by type frequency established by Bybee (2010, also see section 3.4.3 above) these can be regarded productive patterns of noun formation. The fact that the constructions with a noun are the most frequent can serve as an argument for considering the constructs without a head noun as elliptic in nature. This assumption entails that multiple lexicalization processes were in work: V+V+Ø/’a types were formed by ellipsis, and those with a head noun by conversion. Another way to explain the data is that N+V+V+Ø was the central construction type and all other types are modifications or abbreviated forms of this one. This explanation, however, remains highly speculative since we do not know the order of the creation of the different constructions.

The horizontal axis also contains important data: it is expected for event-external VeP to be the most frequent since it seems to be the most productive type in the verbal use of pluralactionality; but besides event-externals, surprisingly result nouns occur with the most construction types, although this function of verbal plurality is not established the verbal usage (see. ch. 4 and 5 above). As it was mentioned, resultative is a secondary function of VeP markers. It is possible that this function was used only in the highly
restricted context of noun formation in Sumerian, or verbal uses are so scarce that we are unable to detect them.

The relatively high amount of intensive forms are a result of the nature of the onomasiological act: the most salient feature of entities are frequently one of their – mostly physical – characteristics, as size or colour. These features are expressed by stative verbs in Sumerian, and their intensity is marked by pluractionality. Hence it is not surprising to find many construct with the Sumerian equivalents of the expressions ’very big’, ’very small’ or ’very thick’.

6.4.2 Denotations and verbal plurality

Apart from formal categorization the examples above can be categorized according to their denotations, i.e. the entity they name. The following categories can be distinguished:

- profession names
- instrument names
- animal names
- human conditions
- abstract nouns

<table>
<thead>
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<th>Continuative</th>
<th>Intensive</th>
<th>Resultative</th>
<th>participant plurality</th>
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</tbody>
</table>
There is an interesting correspondence between the semantic domain and the type of verbal plurality involved: different semantic types are associated only with certain VeP values, but not with others. It would be very hazardous, however, to draw conclusions based on the table; there is no clear arrangement due to animacy or abstraction among the semantic types. The relation between these types and verbal plurality is still not fully arbitrary; it seems there is a constraint on the type of the most salient peculiarity emphasized by VeP. For profession names it is always the repetition of the given activity; for animal names it is the habitual activity, continuity, or intensity and so on. The tendency for one or the other value of pluractionality, of course, highly depends on two factors: one is the nature of the base verb. Stative verbs cannot be interpreted as being repetitive, while telic active verbs are expected not to have a continuous type of reading. The second factor is the nature of the entity named: a profession or instrument name, for example, is highly associated with the main activity of the given person or instrument, which it does again and again; this is typically expressed by habituals cross-linguistically.

6.5. Conclusions

Reduplication in these forms shows a very close resemblance to the derivative element –er in English. It takes verbs as bases, and produce nouns as output, with similar meanings to that of –er derivatives. There are also many differences of course, but undoubtedly reduplication is a powerful word-formation device throughout the Sumerian lexicon. It can be seen that even excluding more questionable lexemes a significant number of nouns can be explains as originated from reduplicated verbs. Most probably the number of such nouns is much higher than the examples cited here, but the quantity of data available to us does not make it possible to fully reconstruct all candidates.

Of course, what interests us most here is how these examples relate to the established categories of verbal plurality in chapter 5. It can be said that at least some of those categories gain further confirmation by these frozen forms, since their explanation from verbal plurality provides a coherent framework. Four of the categories of pluractionality, namely event-internal, event-external (with the values habitual and continuative), intensive and – to a lesser extent – participant plurals can be applied as explanation of the reduplicated verb base for these group of nouns. The resultative
meaning is, although probably not present in the productive use of VeP, cross-linguistically a known secondary function of verbal plurality markers.

Verbal plurality and the semantic operations or processes therefore provide a coherent framework for the explanation of these forms, in which both the form and the different functions can be interpreted and supported by cross-linguistic tendencies. Additionally, these constructs serve as an external reinforcement for certain values of pluractionality in Sumerian: it is highly plausible to assume that if these values had a significant role in early word-formation processes, they also had their place in the productive, verbal use of VeP in written Sumerian. This method of analysis may be a useful help in clarifying or describing more precisely the meaning of certain Sumerian nouns with a reduplicated verb base.

One question remained unanswered which I admittedly do not have an answer for. If one overlooks the Sumerian noun inventory, it is obvious that there are many nouns lexicalized from verbal participles without a reduplicated verb base. Most probably these nouns vastly outnumber the ones investigated in this chapter. This poses the question: why many nouns lexicalized from simple verbs and others from reduplicated verbs? These nouns usually have the same semantic structure as those with the reduplicated verb: a bare verb, or a verb preceded by a subject or object noun, with meaning schemes like 'some who does V', or 'something that does V'. We find profession names, instrument names, birds and fish among these nouns, just like in the case of the nouns analysed above. There is no typical cognitive dimensions reserved for nouns with a reduplicative base; nor typical constructions that occur only with reduplication. Thus, it is very difficult to tell the difference, if there is any, between nouns originated from simple and reduplicated verbs. The differences probably could only be exposed by the native speakers who coined these expressions, and by the generations of speakers who conventionalized them.

This gap in our understanding, however, does not affect the explanations above, because even if the difference between nouns with simple and reduplicated bases is not clear to us, the presence of reduplication has to be accounted for; and verbal plurality offers the most coherent explanation to this phenomenon.
7. Summary

In this study I investigated the main phenomena of nominal and verbal plurality in Sumerian. My starting point was the typological and cognitive setting of number as a grammatical category. The most important notions and correspondences of nominal and verbal plurality were introduced in chapter 2 and 4 respectively, where the values and hierarchies of both area were reviewed. These cross-linguistically supported observations served as the base of the analysis of the corresponding grammatical markers in Sumerian. With the possibilities opened up by electronic corpora, another avenue of research became available, namely quantitative linguistics. Large-scale numerical data was used throughout the study acquired from the ePSD, ETCSL, and ETCSRI.

In chapter 3, the three main exponents of nominal plurality were studied: the enclitic ene, noun reduplication, and the grammatical word didli.

It was shown that in the non-human class there is no singular-plural opposition. Non-human nouns show general number, a value outside of the number system which marks indetermination for number. In other cases, lack of marking can be explained what we have called kind-referring expressions. These expressions refer to a whole type of entities without plural marking.

The distribution of ene is connected to animacy (human and non-human classes), syntactic roles and pronominal marking. An explanation is offered to the lack of absolutives pluralized by ene.

Seemingly there is a great discrepancy between the number of NPs marked by ene, and plural verbal pronominal marking. The analysis of the distribution of ene and the verbal markers showed that the two types of markers co-occur only in highly restricted syntactic environments.

We attributed two basic functions to noun reduplication: greater plural, and distributive. I suggested to replace the commonly used term collective to the linguistically more precise greater plural, since the two have different semantic content, and the latter covers the meaning assumed in Sumerian. The numerical analysis of attestations suggested that noun reduplication is a non-obligatory, derivative morphological construction, and that it probably had certain stylistic value. The diachronic investigation of noun reduplication revealed a shift in the usage of this construction: while increasing in frequency, it became
more and more typical with non-human nouns. At the same time, a semantic bleaching is observable: certain attestations cannot be explained by the two functions stated above. These phenomena suggest that noun-reduplication slided towards becoming a plural marker for non-human nouns.

The analysis of syntactic distribution and contexts of didli revealed that this grammatical word is a distributive marker, The type of distribution it stands for seems indeterminate, and can be inferred from the context only. Since noun reduplication is also a construction that can mark distributivity, the question arose: why did these two exist in parallel? The investigation of different corpora shows that didli is used almost exclusively in economic the context of economic texts probably because it had low stylistic value, or it was even considered a technical term.

Chapter five dealt with verbal plurality. Sumerian has two means to express pluractionality, stem alternation and the reduplication of the verbal base. The former has a well-known function cross-linguistically, expressing the plurality of the most affected participant. In chapter five, I examined the co-occurrence of plural verb stems with human and non-human participants and concluded that unlike regular nominal number, stem alternation is mostly not sensitive to the animacy hierarchy. The next problem is the interpretation of plural stems: do they express purely participant plurality or event plurality? I suggested an approach that replaces strict categorization with a continuum-view: the more individuated the entities involved in the event, the more salient the plurality of the event (instead of only the participants) will be. This approach, however, has to be tested cross-linguistically to be accepted as a valid concept of describing stem-alternation.

The other construction, reduplication of the verbal base is classified according to the lexical aspect of verbs. A basic assumption here is that there are no adjectives in Sumerian; items traditionally labelled as adjectives are dealt with under stative verbs. It was established that the lexical aspect of the verb highly influences the chosen value of verbal plurality, but the whole clause is to be considered for every individual sentence, since the object and adverbial expressions may modify the interpretation of the verb. Sumerian narrative texts contain a high number of achievement and accomplishment verbs, and fewer activity and semelfactive verbs. For stative verbs it was shown that the most prominent interpretations are participant plurality and intensive reading. The role of verbal distributives is also acknowledged, especially for location-prominent verbs.

Chapter six provides the investigation of a special group of nouns, namely those that have a reduplicated verb as a base. These nouns are important evidences for the
presence of verbal plurality in early Sumerian, and besides supporting known categories like iterative and habitual, the importance of resultatives is revealed. The formal analysis of the constructions applies the tools of construction morphology, which provides a way to circumvent certain categorization problems. This chapter also shows the semantic background of lexicalization mostly based on metonymic processes.

A final question has to be answered. This study involves the discussion of many theoretical problems, and provides linguistically supported answers and analyses. But how can these theoretical observations used in practice, in the interpretation and translation of Sumerian sentences? Since most European languages have very limited morphological means to express the categories introduced in this work, I suggest the more expansive use of periphrases. Even if the standard languages to which we translate Sumerian cannot render, for example, verbal plurality grammatically, we can describe these categories by multi-word adverbial expressions. Phrases like ‘again and again’, ‘at multiple locations’, the use of the superlative, etc., even if sound odd, provide possibilities to mirror the original more precisely. Giving up a bit of euphony may open up ways for better translations and even a more complete understanding of Sumerian.
Appendices

Appendix 1: The frequency distribution of reduplicated nouns

This table contains the number of reduplicated attestations of the most frequent words of the ETCSL corpus. The reduplicated instances are not only from the OB literary texts, but from all Sumerian texts in the scope of ePSD. The data was acquired from the ePSD distribution profile database. The numbers in parentheses indicate the number of attestations in the ETCSL corpus, except for those of the Gudea Cylinders, which are counted after the hyphen.

<table>
<thead>
<tr>
<th>noun</th>
<th>number of reduplicated attestations</th>
</tr>
</thead>
<tbody>
<tr>
<td>kur (land)</td>
<td>350 (282-15)</td>
</tr>
<tr>
<td>dumu (child)</td>
<td>25 (1-0)</td>
</tr>
<tr>
<td>inim (word)</td>
<td>22 (16-0)</td>
</tr>
<tr>
<td>e₂ (house)</td>
<td>11 (7-0)</td>
</tr>
<tr>
<td>diğir (deity)</td>
<td>11 (5-0)</td>
</tr>
<tr>
<td>šu (hand)</td>
<td>9 (1-1)</td>
</tr>
<tr>
<td>lu₂ (person)</td>
<td>9 (5-0)</td>
</tr>
<tr>
<td>en (lord)</td>
<td>7 (7-0)</td>
</tr>
<tr>
<td>a (water)</td>
<td>7 (6-0)</td>
</tr>
<tr>
<td>gu₂ (neck)</td>
<td>6 (5-1)</td>
</tr>
<tr>
<td>iri (city)</td>
<td>5 (5-0)</td>
</tr>
<tr>
<td>me (divine power)</td>
<td>5 (4-1)</td>
</tr>
<tr>
<td>nam (destiny)</td>
<td>5 (2-0)</td>
</tr>
<tr>
<td>ki (place)</td>
<td>4 (2-0)</td>
</tr>
<tr>
<td>sağ (head)</td>
<td>4 (2-0)</td>
</tr>
<tr>
<td>mada (land)</td>
<td>4 (4-0)</td>
</tr>
<tr>
<td>ud (day)</td>
<td>3 (3-0)</td>
</tr>
<tr>
<td>Name</td>
<td>Value</td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
</tr>
<tr>
<td>lugal (king)</td>
<td>3^{156}</td>
</tr>
<tr>
<td>arad (slave)</td>
<td>3</td>
</tr>
<tr>
<td>gud (ox)</td>
<td>3</td>
</tr>
<tr>
<td>an (sky)</td>
<td>2</td>
</tr>
<tr>
<td>šag₄ (heart)</td>
<td>2</td>
</tr>
<tr>
<td>gu₃ (voice)</td>
<td>2</td>
</tr>
<tr>
<td>niḡ₂ (thing)</td>
<td>2</td>
</tr>
<tr>
<td>ensi₂ (ruler)</td>
<td>2</td>
</tr>
<tr>
<td>igi (eye)</td>
<td>1</td>
</tr>
<tr>
<td>bad₃ (wall)</td>
<td>1</td>
</tr>
<tr>
<td>kalam (the land)</td>
<td>0</td>
</tr>
<tr>
<td>erin₂ (workers)</td>
<td>0</td>
</tr>
<tr>
<td>a₂ (arm)</td>
<td>0</td>
</tr>
<tr>
<td>nin (lady)</td>
<td>0</td>
</tr>
<tr>
<td>ama (mother)</td>
<td>0</td>
</tr>
<tr>
<td>al (hoe)</td>
<td>0</td>
</tr>
<tr>
<td>kud (fish)</td>
<td>0</td>
</tr>
<tr>
<td>dam</td>
<td>0</td>
</tr>
<tr>
<td>ur-gir₁₅ (domestic dog)</td>
<td>0</td>
</tr>
</tbody>
</table>

^{156} All 3 attestations are from the OB period.
Appendix 2: Repetition or reduplication?

In the study of reduplication one – at least theoretically existing – option is widely ignored in the literature, the possibility of the reduplication being actually repetition.

Repetition and reduplication are very similar phenomena: both are “characterized by the iteration of the linguistic material.” Since theoretically it is possible that our reduplicated forms are actually repetitions, it must be briefly discussed which one we are dealing with in the case of Sumerian nouns and verbs. The most important difference is the affected linguistic area: repetition “applies across words” thus belongs to the realm of syntax or pragmatics while reduplication is a morphological process or construction. The question is how to distinguish the two? Gil (2005) sets up six distinguishing criteria:

1. Unit of output. Repetition: greater than word; reduplication: equal or smaller than word. This criterion goes back to the definitional differences between repetition and reduplication. It can be said with certainty that Sumerian word forms with reduplicated bases are not bigger units than words even if we accept Black’s assumption about the clitic status of verbal morphemes, since clitics are not words on their own. The traditional view which considers different verbal grammatical elements affixes, reinforces the assumption that reduplicated finite verbs are single words.

2. Communicative reinforcement. Repetition: present or absent; reduplication: absent. The function of repetition is usually “to make sure that their [the speakers’] message has been transmitted successfully.” In Sumerian we cannot investigate such communicative factor fully, since we have access only to written sources, but I cannot see anything indicating that the doubling of the verbal bases would serve an extragrammatical function. As far as it can be judged, all forms of doubling of the phonetic material corresponds to some type of nominal or verbal plurality; these are grammatical and lexical functions, though the exact

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158 Ibid.
159 I will refer to the phenomenon in question as ’reduplication’ for the seek of convenience.
161 Gil 2005: 34.
162 In the broader sense of the term ’grammatical’.
meanings may have been affected by pragmatic factors that we sometimes cannot reconstruct.

3. Interpretation. Repetition: iconic or absent; reduplication: arbitrary or iconic. Repetition may have purely communicative functions and in this case it has no (lexical or grammatical) meaning (or function)\(^ {163}\). If it has meaning (or rather grammatical function) that is usually iconic ,,involving concepts such as intensivity, plurality and iterativity''\(^ {164}\). Reduplication, on the other hand, is may be iconical or arbitrary in meaning (or function again). Hence we have an overlapping here: both repetition and reduplication may have iconic function, and, as Gil shows, this function is very similar to nominal plurality and pluactionality, thus this criterion is not disjunct. In the case of Sumerian the meaning expressed by reduplication is plurality (nominal or verbal), which is iconic, thus it cannot be a decisive factor.

4. Intonational domain of output. repetition: within one more intonation groups; reduplication: within one intonation group. Since our knowledge of intonation patterns in Sumerian are extremely low and uncertain, this criterion cannot be used at all.

5. Contiguity of copies. repetition: contiguous or disjoint; reduplication: contiguous. In other words, the basis of this criterion is the adjacency of the phonological material. In the case of repetition it is not necessary that the duplicated phonological material is contiguous, but it is still possible. This means that similary to the third criterion this is not decisive, since in Sumerian, the reduplicated forms are contiguous which may characterize both repetition and reduplication.

6. Number of copies: repetition: two or more; reduplication: usually two. In Sumerian reduplicated forms almost exclusively consist of two elements, although there are a few attestations of tripled and quadrupled forms; thus this criterion in itself again cannot be decisive. The norm, however, is to double the phonetic material in the case of Sumerian, hence this criterion also favors the reduplication interpretation.

Summary the results:

<table>
<thead>
<tr>
<th></th>
<th>repetition</th>
<th>reduplication</th>
</tr>
</thead>
</table>

\(^{163}\) I. e. it has a function, only this function is extragrammatical.

\(^{164}\) Ibid.
<table>
<thead>
<tr>
<th></th>
<th>-</th>
<th>+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit of output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicative reinforcement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>interpretation</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>intonation</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>contiguity</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Number of copies</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

As it can be seen that although we cannot use every criterion Gil offered, two of the factors favour the reduplication interpretation, and none of them is positively against it. We can conclude that the theoretical possibility that stem doubling in Sumerian is reduplication and not repetition.
Appendix 3: verbal distributives in linguistic typology

In this appendix a somewhat longer investigation of the category of verbal distributive from the viewpoint of language typology and cognitive linguistics is attempted. This analysis is needed because the linguistic literature of distributivity is highly diverse, and a unified approach with clearly defined terms is lacking.

'Distributive' is a relatively widely used term in describing several kinds of plurality, although it is most commonly used in the context of nominal plurality. Still, there are a number of languages, mostly among the native languages of North America\textsuperscript{165} that show verbal distributive. The categorial status of verbal distributive is, however, not entirely clear. It is said to be of spatial nature, but some of its usages are similar to participant plurality, others seem to fit into the category of aspect. Some scholars equate it to verbal plurality: „Morphemes expressing verbal number are frequently labelled distributive markers, or verbal plurality markers” (Crevels 2006: 161).

In Nahuatl (a native Meso-American branch of languages) pluractionality is expressed by prefixal partial reduplication,\textsuperscript{166} sometimes with an additional phoneme. Although Tuggy (2003) does not use the term 'verbal plurality' or even 'verbal aspect' or aktionsart', he obviously writes about iteratives, frequentatives/repetitives and habituals (“separated repetitions”) etc. in Nahuatl, e.g. in (1), (2)\textsuperscript{167} and (3):

(1) Nahuatl\textsuperscript{168}
a. witeki 'thump'  
b. wi-witeki 'beat/hit over and over again'

(2) Nahuatl  
kuā-kualāni (RDP-get.angry) 'get angry over and over again'

(3) Nahuatl  
a. maka 'give to [s. o.]

\textsuperscript{165}Mithun 1999.
\textsuperscript{166}For the formal classification of reduplication see Moravcsik 1978, and Matthews 1991: 133-136.
\textsuperscript{167}Tuggy 2003: 101-102. In the transcription of examples I follow the original authors.
\textsuperscript{168}In quoting examples I follow the next procedure: I provide as much information as is given in the original, i.e. if there is morphological glosses, I provide them. With multiword expressions I use tables which helps to follow the morphemic glosses.
b. mā-maka ‘occasionally give to [s. o.]’

Tuggy introduces distributive as an individual category which “relates to a process or static configuration which is distributed through space rather than time.” (Tuggy 2003: 106.) A couple of examples are:

(4) Nahuatl
a. koyōni ‘be perforated’
b. koh- koyōni ‘be perforated in several places/all over’

(5) Nahuatl
a. ihtlakowa ‘break [s. t.] up, ruin’
b. ih-ih tlakowa ‘break [s. t.] into separate pieces, take [s. t.] to pieces’

Tuggy later states that „time and spatial dimensions are very commonly coordinated to produce hybrid meanings.” (Tuggy 2003: 106). In this light, our ex. (4) can be reinterpreted as (6)\(^{169}\) and we can also observe the phenomenon in (7):

(6) Nahuatl
koh-koyōni ‘be perforated sequentially (through time) in several places’

(7) Nahuatl
mah-mana (rdpl-spread) ‘lay the table’ i. e. “(sequentially) spread or distribute the various items needed for a meal in the appropriate places”. (Tuggy 2003: 107.)

Further examples of verbal distributivity can be found in North American Indian languages. Mithun distinguishes the following functions of distributive:

On adjectives: the distribution of a quality over entities, as in (8):

(8) Quileute

<table>
<thead>
<tr>
<th>tcíku</th>
<th>ká-yad</th>
<th>ławé-lk’wa’as</th>
<th>ha-hé’t’c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>big</td>
<td>shark</td>
<td>two-child-he</td>
<td>DISTR-pretty</td>
</tr>
</tbody>
</table>

'Big Shark had two daughters who were pretty.'

On verbs:
distribution over space (9).\(^{170}\)

\(^{169}\) Ibid.

\(^{170}\) Mithun 1999: 89.
(9) Mohawk
Seksahrónnion’
s-ks-hr-onnion’
AGENT-dish-set.on-DISTRIBUTIVE
'Set the table!'

This may imply the event occurring distributed over different participants or occasions (10):
(10) Mohawk
Wa’enontarónnion’
wa’-e-nontar-a-r-onnion’
FACTUAL-FEM.A-soup-EPENTHETIC-put.in-DISTR
'She kept serving the soup (one ladleful at a time to each dinner).'

Similar examples can be found in other native American languages, as in 11 (Houser 2007: 24):
(11) Kawaiisu

<table>
<thead>
<tr>
<th>?ewutsi</th>
<th>?awatü</th>
<th>hu-huziya-rū-mū</th>
</tr>
</thead>
<tbody>
<tr>
<td>squirrel</td>
<td>many</td>
<td>RDP-peek-NMR-PL</td>
</tr>
</tbody>
</table>

'Many squirrels are peeking out.'

Another example from Itonama: (12a) without and (12b) with a distributive marker (Crevels 2006: 164):
(12) Itonama
a.

<table>
<thead>
<tr>
<th>wase’wa</th>
<th>si-maki</th>
<th>uwaka</th>
<th>k’a-dili</th>
<th>ubuwa</th>
</tr>
</thead>
<tbody>
<tr>
<td>yesterday</td>
<td>1.SG-give</td>
<td>meat</td>
<td>DEM.DIS-CLF2</td>
<td>person</td>
</tr>
</tbody>
</table>

'Yesterday I gave those persons meat'

b.

<table>
<thead>
<tr>
<th>wase’wa</th>
<th>si-maki-he</th>
<th>uwaka</th>
<th>k’a-dili</th>
<th>ubuwa</th>
</tr>
</thead>
<tbody>
<tr>
<td>yesterday</td>
<td>1SG-give-DISTR</td>
<td>meat</td>
<td>DEM.DIS-CLF2</td>
<td>person</td>
</tr>
</tbody>
</table>

171 Another possible interpretation of this example (and actually this is suggested by Crevels) is that it is an “event distribution”. As we will see later in that case I would prefer not to use the label 'distributive'.
Mithun describes a process of reduplication which derives “terms for actions occurring in repeated, discrete segments, or states that recur.” (Mithun 1999: 87)

Mithun does not regard distributives as part of the category of verbal number, only related to it. (Mithun 1999: 88.) Houser (2007), on the other side, considers it a subtype of verbal plurality, as do Wood (2007). Houser’s categories are:

• Iterative: Event-internal repeated action
• Repetitive: Event-external repetition in time
• Distributive: Event-external action distributed across locations or individuals
• Habitual: Event-external pluractionality that “describes a situation which is characteristic of an extended period of time, so extended in fact that the situation referred to is viewed not as an incidental property of the moment but, precisely, as a characteristic feature of a whole period“ (Comrie 1976: 27-28)
• Continuative: Similar to the progressive aspect but additionally specifies that the action is “deliberately kept going; ‘keep X-ing’ or ‘continue X-ing.’” (Houser 2007: 3)

Examples where distribution is “across time” (Houser 2007: 4):

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>nɪmmi</td>
<td>waha</td>
<td>u=wo-kwo’isa-si</td>
<td>ka-oka-himma</td>
</tr>
<tr>
<td>we.EXCL</td>
<td>twice</td>
<td>3=RDPL-wash-SEQ</td>
<td>KA-that-something</td>
</tr>
</tbody>
</table>

‘having twice washed it out, those things’

It is interesting to note that in this example two events are distributed which – according to certain linguists – can be described as a category on its own called duplicative (cf. Wood 2007: 71 and passim).

In Klamath we see “distributivity across time” (Houser 2007: 22) again with Houser’s interpretation in parentheses:

(14) Klamath

a.
Another example of “temporal distributivity”.¹⁷²

(15) Comanche

<table>
<thead>
<tr>
<th>Tena-hpi’-tsa’</th>
<th>ke</th>
<th>ti-ri-’ai-ti.</th>
</tr>
</thead>
<tbody>
<tr>
<td>man-ABS-DECL</td>
<td>NEG</td>
<td>RDPL-INDEF-do-PROG</td>
</tr>
</tbody>
</table>

'The man doesn’t work.'

And one from Itonama (Crevels: 7) (16):

16 (Itonama)

a.  

<table>
<thead>
<tr>
<th>wabi’ka</th>
<th>nutyo-na-’ka</th>
<th>wanu’we</th>
<th>i’yak’i</th>
</tr>
</thead>
<tbody>
<tr>
<td>woman</td>
<td>pour-NEU-F.SG</td>
<td>water</td>
<td>ground</td>
</tr>
</tbody>
</table>

'The woman poured water into the ground'

b.  

<table>
<thead>
<tr>
<th>wabi’ka</th>
<th>nutyo-he-’ka</th>
<th>wanu’we</th>
<th>i’yak’i</th>
</tr>
</thead>
<tbody>
<tr>
<td>woman</td>
<td>pour-DISTR-F.SG</td>
<td>water</td>
<td>ground</td>
</tr>
</tbody>
</table>

'The woman poured water into the ground (little by little)'

Houser also introduces the function „spatial iterativity”, connected to motion sense in which „the action described by the verb is construed as occurring in a single event and the subevents occur in multiple locations.” (p. 14.). Examples are:¹⁷³

¹⁷² “The action is usually distributed across individuals, but depending on the interpretation of (70b) [our ex. 15.] the action might be distributed across time as well.” Houser 2007: 23.
(17) Mono Lake Northern Paiute

<table>
<thead>
<tr>
<th>Isu</th>
<th>nana</th>
<th>ika</th>
<th>t i hida</th>
<th>koti-bodoti.</th>
</tr>
</thead>
<tbody>
<tr>
<td>this</td>
<td>man</td>
<td>this</td>
<td>deer</td>
<td>shoot-BODOTI</td>
</tr>
</tbody>
</table>

'The man is running around and shooting the deer.'

(18) Mono Lake Northern Paiute

<table>
<thead>
<tr>
<th>Isu</th>
<th>nana</th>
<th>ika</th>
<th>t i hidda</th>
<th>puni-bodoti.</th>
</tr>
</thead>
<tbody>
<tr>
<td>this</td>
<td>man</td>
<td>this</td>
<td>deer</td>
<td>see-BODOTI</td>
</tr>
</tbody>
</table>

'The man goes over and looks at the deer every now and then.'

'The man is scouting the deer.'

One of the major points to discuss is “temporal distributive”. Houser states that verbs of different lexical aspects receive different readings: “In contrast [with semelfactive verbs], verb roots of other Aktionsart types (i.e. accomplishments, activities, achievements, and states) receive an event-external, distributive reading upon reduplication.” (Houser 2007: 4)

From the definition of distributive given by Houser it seems that it is an inherently hybrid category distributed in time and across locations or individuals, so besides being temporal it has another spatial, or personal dimension. However, he seems to allow purely temporal distributives also: “… the action described by the verb is distributed across multiple events. This distribution can be across individuals … or across time” (Houser 2007: 4)

It raises theoretical problems, since derivate categories tend not to be expressed by one cumulative element. But Tuggy also identifies such combinated meanings as quoted

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173 The examples pose more than one theoretical problems. First, Houser translates some event internal (iterative) verbs with the phrase „every now and then” which seems to be much more appropriate for frequentative meaning, since it’s very difficult to imagine one event to contain subevents „every now and then”. Second, the meaning of the suffix –bodoti seems to go far beyond an aspectual/distributive marker in meaning. The meaning that seems to emerge from the above examples ’to go around and do X repeatedly and at different places’ involves much more than just aspect and/or distributivity. It raises the question whether this suffix should be described in lexical terms.

174 Actually this approach to distributives is in contradiction with the definition of verbal distributive given by e.g. Tuggy: „The notion of distributivity relates to a process or static configuration which is distributed through space rather than time.” (2003: 106.)
above: “The time and spatial dimensions are very commonly coordinated to produce hybrid meanings.” (Tuggy 2003: 106.) I will get back to this problem in detail later.

If temporal distributive is considered to be only temporal, than there is no problem: looking at the definitions of the aspectual/Aktionsart categories iterative, habitual etc., these are different configurations of events distributed in time. In other words, there is no reason to handle temporal distributive as a category of its own, if there are no perceptible differences between this and aspect. This can be supported by the definition of distributives of Wood: “a category denoting events distributed over multiple spatial locations or with a plural argument, the individual parts of which act or are acted on separately” (Wood 2007: 33). This definition does not mention temporal distribution at all. Wood also states that “In order to count as a distributive, a category had to have no apparent pluractional use that did not involve distribution either in space or across participants” (Wood 2007: 64). Wood (2007: 64-45) also notes that the combination of spatial and participant distributivity is relatively common. It is also not excluded that events expressed by spatial distributive happen sequentially, but the spatial element in the meaning is necessary.

It is not surprising if certain aspects are expressed with the same grammatical element/construction as distributive as we can see in Itonama (ex. 16).175 This phenomenon is already observed by Bybee, Perkins and Pagliuca (1994: 168). The same can be said about ex. (12): if we interpret it as the repetition of the event of meat-giving (as does Crevels), then it is an iterative event in fact. In this case both ex. (12) and (16) suggest that the marker DISTR may stand for iteratives in Itonama. This is reinforced by the fact that Crevels classifies DISTR as a marker of event plurality. (cf. Crevels 2006: 12.)

The same usage of the term distributive to iteratives etc. is not unique: as Shaw notes relating to Salish languages: “…‘plural’ CVC reduplication pattern is variously referred to as ‘distributive’ by other Salish scholars; with some verbs it may mark intensive or iterative action.” (Shaw 2004: 3, fn. 4.)

For clarifying the relations among these categories it is helpful to arrange their semantic properties in a table (assuming the pure temporal nature of “temporal distributive”):

175 Another palpable interpretation of 16.b would be ‘The woman poured water into the ground (here and there)’ i.e. spatial distributive. Since the author is not an expert of Itonama, the interpretation offered by Crevels is accepted here.
There are two immediate conclusions to draw. First: there is no perceptible difference between the meaning of event plurality and “temporal distribution”. This is no surprise, since we know that event plurality belongs to verbal aspect/Aktionsart and the above mentioned types of event plurals (iteratives, frequentatives, repetitives, habituals) essentially express the distribution of events in time. Thus temporal distributivity is not a category in itself, and its examples can be dealt with within event plurality. Actually the very definition of distributivity (whichever one accepts) hints that it is not a temporal category.

It can also be observed that the only difference between participant plurality and the person type of distributive lies only in the individual character of the latter one (cf. Wood 2007: 62). If an action is distributed among more than one participants it necessarily involves more than one participant, which is exactly the base of participant plurality; if there is no other meanings involved then we have participant plurality or nominal plurality (cf. the Itonama examples in (12)). In the case of participant distributives I’m not aware of examples where the participant affected is not the agent or patient of the clause. Thus participant distributivity can be considered as the subcategory of participant plurality which is – naturally – more specified. Event plurality and spatial distributivity are in a significantly different relationship because they specify a different dimensions, time and space respectively.

<table>
<thead>
<tr>
<th></th>
<th>plur of participants</th>
<th>plur of actions</th>
<th>temporal distribution</th>
<th>spatial distribution</th>
<th>individuality/independence of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>event p.</td>
<td>Ø</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
<td>Ø</td>
</tr>
<tr>
<td>part. p.</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
<td>Ø</td>
<td>Ø</td>
</tr>
<tr>
<td>part. d.</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
<td>Ø</td>
<td>+</td>
</tr>
<tr>
<td>spatial d.</td>
<td>Ø-&gt;</td>
<td>+</td>
<td>&lt;-Ø</td>
<td>+</td>
<td>Ø</td>
</tr>
<tr>
<td>temp. d.</td>
<td>Ø</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
<td>Ø</td>
</tr>
</tbody>
</table>

Ø: Properties marked by Ø are not parts of the meaning of the given category, but the given category does not exclude this meaning. In other words the category is neutral in respect to the semantic feature.

+: Part of the meaning of the given category.

-> <- one of them must appear
This approach yields a tripartite model: under event plurality we have a category specified for temporal plurality (event plurality with its own subcategories), one specified for spatial plurality (spatial distributivity) and one specified for participant plurality (with a subcategory of participant distributivity). This is an opened model: any related categories may be attached (for instance „intensive”) by adding more semantic/functional dimensions for which the other categories are not specified.

Now it’s possible to rearrange the above table in a more comprehensive way:

<table>
<thead>
<tr>
<th></th>
<th>plur of participants</th>
<th>plur of actions</th>
<th>temporal distribution</th>
<th>spatial distribution</th>
<th>individuality/independence of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>part. p.</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
<td>Ø</td>
<td>Ø</td>
</tr>
<tr>
<td>person d.</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
<td>Ø</td>
<td>+</td>
</tr>
<tr>
<td>event p.</td>
<td>Ø</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
<td>Ø</td>
</tr>
<tr>
<td>spatial d.</td>
<td>Ø</td>
<td>+</td>
<td>Ø</td>
<td>+</td>
<td>Ø</td>
</tr>
</tbody>
</table>

There is an important phenomenon to consider about category boundaries. It seems that there are overlapping among the meanings of different subtypes of verbal plurality, and sometimes it is difficult to tell whether we are dealing with one or the other, or more than one at the same time (see below). There are no sharp boundaries between spatial and temporal categories, and one may very easily activate the other. A possible way to look at them is the following: when one category is present it by no means exclude the other ones, rather it only directs the focus of attention to one ’feature’, e.g. the spatial distance of events, but in the background another ’features’ such as the temporal sequentiality of events are also active, although they are not in focus.

Now we are turning to temporal distributives or “hybrid meanings” in detail. Some of the above examples show that temporal and spatial repetition may occur together yielding “hybrid” or cumulative meanings. (Tuggy mentions the cumulation of even more than two meanings: “At the semantic pole, however, it is usual to find cases where two or three meanings are present and intermingled in differing degrees.” (Tuggy 2003: 101.) The multiple meanings (temporal + spatial) mentioned above are considered as a category of its own by Houser.
A simple solution of describing these cases would be to simply consider them as a union of meanings, e.g. event plurality and spatial distributivity might be understood this way:

<table>
<thead>
<tr>
<th></th>
<th>plur of participants</th>
<th>plur of actions</th>
<th>temporal distribution</th>
<th>spatial distribution</th>
<th>individuality/independence of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>event p.</td>
<td>Ø</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
<td>Ø</td>
</tr>
<tr>
<td>spatial d.</td>
<td>Ø</td>
<td>+</td>
<td>Ø</td>
<td>+</td>
<td>Ø</td>
</tr>
<tr>
<td>hybrid meaning:</td>
<td>Ø</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
</tr>
<tr>
<td>hybrid meaning 2:</td>
<td>+</td>
<td>+</td>
<td>Ø</td>
<td>+</td>
<td>Ø</td>
</tr>
</tbody>
</table>

That is, now we have a meaning with temporal plurality\(^{176}\) and spatial distributivity. In example (6) there may be one item perforated, in example (7) there are also multiple participants and most probably an iterative action.

Another type of hybrid meaning (hybrid meaning 2 here) is the combination of participant and spatial distributivity. This is not problematic, and relatively common as I mentioned above.

There are several problems we have to cope with accepting this solution:

First, the explanation above would be normal with inflectional marking. This phenomenon, although, is unusual in languages which express these categories by derivation. Derivational morphemes (or constructions) usually do not express more meanings cumulatively.\(^{177}\) This problem is easily solved in a prototypical framework: a derivative cumulative morpheme is an example of non-prototypical derivation.

Second, it is very difficult to tell from these examples whether this combination of meanings is fully conventionalized or rather only one of the meanings are present and the other one is entailed by it, or follows from it by inference, or by another pragmatic device. If we accept the “category of its own” approach of Houser, and consider both meanings conventionalized in one form, then another explanation is needed. Space and time are

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\(^{176}\) Typically continuous, cf. Wood 2007: 70.

\(^{177}\) Cf. Haspelmath 2002: 71, 76.
strongly related, they are 'adjacent' categories in grammaticalization,\textsuperscript{178} there are attested examples of spatial markers becoming temporal.\textsuperscript{179} Maybe this relatedness makes it possible for them to be expressed in one morpheme (or, in the case of reduplication, one morphological construction).

Spatial distributives can be further divided into four subcategories, partly according to the semantics of the pluralised verb. The following categorization is based on Wood 2007:

- motion verbs: “spatial distribution readings are a typical result of pluractionality, particularly with temporally continuous categories.”
- specifically spatial distributives “indicating repetition of an action or situation at various points in space”
- distributives with both spatial and participant meanings
- “some categories have spatial interpretations in addition to basic temporal pluractional interpretations, with or without argument plural or argument-distributive interpretations” (Wood 2007: 68).

It can be seen that the fourth category involves inherently what Hauser calls hybrid meanings. This, of course, does not exclude that the other three categories can have this type of meaning cumulation. Most probably it has to be investigated for each individual language whether hybrid meanings are conventionalized or can be reached only by pragmatic processes.

\textsuperscript{178} Cf. Heine – Claudi - Hünnemeyer: 48; Traugott-Dasher 2005: 75. For the cognitive processes see Bybee 2003.

\textsuperscript{179} Heine-Kuteva 2002: 178-179; Traugott-Dasher 2005: 57. etc.
Appendix 4: lexicalized reduplicated nouns with philological commentaries

In this list all nouns with a reduplicated verb as a base is enumerated and some philological or linguistic commentary is provided. The list is arranged according to the type of verbal plurality assumed in the reduplication. The citation forms follow the ePSD.

Event-internal reduplication

In these nouns we assume the the underlying verb is reduplicated to express the repetition of action in a single event. The repetitions of the action are conceptualized as going on without hiatuses.

**dubdubu** [BIRD] wr. dub₂-dub₂-buₜušen "a bird; a bat" Akk. akkannu; suttinnu; šagašu > dub₂ 'to tremble'? Two explanations are possible: my suggestion is that it comes from the verb 'tremble’ and it refers to the movement of the wings of bats. Veldhuis offers another explanation to this name, see Veldhuis 2004: 237. Perhaps the name **dub₂-dub₂-buₜušen** may be related to the verb **gu₃ - dub₂** 'to shout"' 'gull'?" Independently of the explanation we choose it can be said that the bird (or bat) is named after an audible or visual feature. In other words the name can be translated to „the bird which always shouts” or „the bird which (typically) beat-flaps its wings”

Attested already in the ED Bird list (37) in the form tug₂-tug₂.

**inbulbul** [CHAFF?] wr. in-bul₃-bul₃ "an agricultural product, chaff?, hay?, straw?" < bul₃ 'to blow’ or bul₃-bul₃ 'to shake’

This word may be an interesting result of a double lexicalization process. With most probability from the verb **bul₃** lexicalized the verb **bul₃-bul₃** 'to shake’. It can be taken as an example of iterative reduplication. This complex went through further lexicalization which yielded the form with the frozen agentive prefix. The resulting noun may be considered as a resultative construction.

**bulbul** [REED] (10x: Ur III, Early Old Babylonian) wr. ūbul₃-bul₃ "a reed" ? < bul₃-bul₃ 'to shake’

**halhala** [DESTROYED] wr. hal-hal-la "completely destroyed" < hal 'to divide, distribute’.

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180 See also Heimpel 1987-1990: 609.
The word probably acquires slightly different meanings dependent on the preceding noun. In še-hal-hal-la it may mean ‘threshed grain’, and the reduplication refers to the iterative act of dividing grain and chaff. In lu₂-hal-hal-la ’slanderer, scandalmonger’ it may refer to the frequent distributing of information.

Event-external reduplication

The reduplication of the underlying verb expresses event-external, more precisely habitual reading in the case of these nouns. These nouns denominate entities on the base of an action habitually perfomed by the given entity which is may be the main function of an instrument, the typical task of a profession, or a salient activity of an animal.

**bandudu** [BASKET] wr. ba-an-du₅; ba-an-du₅-du₈ "seeding basket of a plow" Akk. banduddû < du₅ 'to heap up'.

The word bandudu was subject to some ortographical variaton. In ED it was written ba-an-du₅, and only in the Ur III period the writing ba-an-du₅-du₈ emerged. It may have been the result of reinterpretation or geographical variation, though the data does not reinforce the later conclusion unambiguously. I follow Civil (1994: 101) in that I treat the different variatons as one word.

The word may be interpreted as a frozen inflected word (ba.n.du.du), in this case it preserved the agent agreement, or it may be attributed to the compound ban 'unit of capacity' + du 'to heap up'. The transaltion then would be 'that which heaps up bāns regulary'.

**šeršer** [CHAIN] wr. kūš₃-šir₃ "chain" Akk. šeršerru < šir₃ 'to bind'

It seems that širšir may refer to metal chains or leather straps, cf. OB Nippur urra 2 385a which reads kūš₃-šir₃. It may be interpreted as „that which binds everything” or „that which binds constantly/continuously”. I argue that the latter explanation is better, because as we will see, the type of nouns expressing the first interpretation usually contain the element nī₂ ‘thing’.

**kinkin** [GRINDER] wr. ǧis₂ kinkin₂ "(wooden) grinder?, pestle?” < kin 'to grind’

This is one of the most transparent type reduplicated constructions. It’s a clear example of habitual meaning characteristic of instrumental and profession nonus. A translation would be '(that which) grinds every day/habitually’.

**kinkinšu** [GRINDSTONE] wr. kinkin-šu "small grindstone" < kin 'to grind’

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181 As suggested by Mieroop (1986: 10.)
Probably it is a special kind of grindstone, in which the added šu 'hand' which serves as a modifier meaning 'handheld'.

**ğešurur** [HARROW] (3x: Ur III) wr. ħeš-ur₃-ur₃ "harrow" Akk. *naspanu* < ħeš ur₃ 'to harrow'

This is an example of the well-attested type of instruments with the habitual meaning '(that which) V habitually'.

**gabdudu** [OFFICIAL] wr. ga-āb-du₁₁-du₁₁ "an official; informant?" < dug₄ 'to speak'; ga-āb is most probably a frozen grammatical form that consists of a modal and a FPP (see also Jagersma 2010: 128 on the role of ga- an b- on deverbal nouns).

**arar** [MILLER] (16x: ED IIIb, Ur III, Old Babylonian) wr. ǧem₃-ār₃-ār₃; lu₂-ār₃-ār₃; ħeš₃-ār₃; "miller" Akk. *ararru*; *țē’inum* (the Akkadian lexeme is a loanword from Sumerian) < ār₃ 'to grind'

This again is one of the more transparent types with a habitual origin attested from the ED period onwards, 'someone who habitually grinds'.

**girgir** [RODENT] wr. ģi₅-gi₅-gi₅ 'rodent' < gi₅ 'to slip (in or through), glide'

The only attestation I found is from OB Diri Nippur 103 where it is translated by *asqūdum*: rodent or snake. Hence the verb refers to a typical characteristic of the animal, its motion, and can be interpreted as '(that which) habitually/constantly slips/glides'.

**niğsasa** [BURNING] wr. niğ₂-sa-sa "burning; brazier, oven" < sa 'to roast'

**gabzuzu** [EXPERT] wr. ġab₂-żu-zu "expert" Akk. *kabzuzû* < zu 'to know'

**lulullul** [LIAR] wr. lu₂-lu₂-lu₂ "extreme liar" < lul 'to be false'

**luğiadudu** [NIGHT-WATCHMAN] wr. lu₂-ği₆-a-du-du; lu₂-ği₆-du-du "night-watchman" Akk. hā’iṭu < ġen 'to go' See also Sjöberg 1996: 118, 124.

**luatarlala** [CLOWN] wr. lu₂-ā-tar-lā₂-lā₂ "clown" < ātar 'derision' + lā₂ 'to show/display/carry'. The only attestation known to me is Sjöberg 1996: 120, 135.

**inimbabal** [BIRD] wr. inim-bal-bal*mušen* "a bird" < inim 'word' + bal 'to change'. Veldhuis (2004: 256) suggests the translation 'talkative bird'.

**enđududug** [CHANTER?] wr. en₃-du-du₄-du₄ "chanter?" < endu 'song' + dug₄ 'to say'

**enđuğarğar** [COMPOSER] wr. en₃-du-ḡar-ḡar "composer" < endu 'song' + ġar 'to put, place'

**lusagsag** [PROFESSION] wr. lu₂-sag₃-sag₃ "a profession" < sag₃ 'to weave'. Sjöberg (1996: 136) suggests another reading: 'a musician', most probably drummer, 'the one who regularly beats (the drum)'.

172
maššugidgid [DIVINER] wr. maš-šu-gid₂-gid₂; maš₂-šu-gid₂-gid₂ "diviner" < šu gid₂ 'to examine'. maš₂-šu-gi4-gi4 'diviner' is most probably a late version created by reanalysis. This word has also at least one attestation with lu₂ 'person', see Sjöberg 1996: 121.

niğbalbal [CROSSING] wr. niğ₂-bal-bal "crossing" < bal 'to cross'

ukuku [BIRD] wr. u₃-ku-kuₘušen "a bird" Akk. šallalu “sleeping bird” or “sleeper bird” < u₃ ku 'to sleep'. Veldhuis (2004: 294) suggests that ukuku may be sandgrouse, but cf. the definition of CAD § “A nocturnal bird”. The role of reduplication is questionable here: it may refer to the active period of the bird, or related to the role of the bird in Sumerian literature (cf. Veldhuis 2004: 293-294).

Resultative reduplication

This is an interesting group since it seems to be outside the range of meanings in the verbal usage of verbal plurality in Sumerian. The nouns in this class designate the result of the verbal base.

inbulbul [CHAFF?] wr. in-bul₅-bul₅ "an agricultural product, chaff?, hay?, straw?" < bul₅ 'to blow' or bul₃-bul₅ 'to shake' (See commentary above.)

kudkudra [CRIPPLE] wr. kud-kud-ra₂ "a cripple" < kud 'to cut, break off'

The form is the past participle of the reduplicated base. The reduplication seems unnecessary in this case, since kud-ra would also mean 'cut off'. Since the word expresses a condition, the reduplication may refer to the intensity of the state, or again, it may be a resultative construction as in the case of inbulbul.

mumun [NOISE] wr. mu₇-mu₇ "noise" Akk. rāmīmu; rigmu < mu₇ 'to make noise'

This word has attestations only from the OB period. The auslaut /n/ is attested only in OB Diri Nippur 30: [[mu₇-mu₇]] = mu-mu-un = KA×LLKA×LI = ri-ig-mu-un. No other attestations of the word mu₇ 'to make noise' known to me suggests that an /n/ auslaut should be reconstructed for this verb. The meaning is a clear example of the resultative type.

šiši [DEFECT] (2x: Old Babylonian) wr. ši-ši "defect" < ši 'to become tired' Cf. Akkadian šišū: 'a person with an eye defect'. It is not obvious whether it is a loanword from Akkadian to Sumerian or vice versa; the semantic transparency of the Sumerian version, however, suggests the latter.

ududu [REED-BUNDLE] wr. ṣe₂-du₃-du₃ "reed bundle" Akk. īlu < du₃ 'to build'
šugurgur [PURIFICATION] wr. šu-gur-gur "purification (ceremony)" Akk. takpertu < šu-gur 'to wipe clean; to erase'
namtagtag [DAMNATION] wr. nam-tag-tag "damnation" < nam tag 'to curse'
šabalbal [DESCENDENT] wr. šag-bal-bal; šabalbal "descendent" Akk. liblibbi < šag-bal bal 'to procreate'
ziddubdub [FLOUR HEAP] wr. zid-dub-dub "a flour heap" Akk. zidubdubbû < zid-dub 'flour' + dub 'to heap up'
niĝdimdim [FORM] wr. ūrul niĝ2-dim2-dim2 "manufactured object; physical form, shape" < dim2 'to manufacture'
namkukdudra [LAMENESS] wr. nam-kud-kud-ra2 "lameness" < nam kud 'to curse'
niĝdugdug [SPEECH] wr. niĝ2-dug4-dug4 "speech" < dug4 'to speak'
ububul [PUSTULE] wr. u3-bu-bu-ul; u-bu-bu-ul; u4-bu-bu-ul "a boil, pustule" Akk. bubu'tu < bul 'to inflate'
šugurgur [SWABBINGS] wr. šu-gur-gur "purification (ceremony)" Akk. takpertu < šu-gur 'to wipe clean'
ğargar "accumulation" < ğar 'to put, place'

Intensive reduplication

In this group, reduplication of the – mostly stative – verbs stand for the intensity of the state or characteristics expressed by the verb.
gurgur [VESSEL] wr. gur4-gur4; dug4-gur4; dug8-gur8; gur8-gur8 "a vessel; a unit of liquid capacity" < gur4 'to be thick'

The transparency of gurgur is questionable. According to Powell (1987-1990: 506) 1 gurgur equals 9 sila. If this was the actual capacity of a vessel, then the name 'very big' is appropriate, since 9 liters is definitely big for a 'flask'. It is described as „a large earthen container” by Steinkeller (1992: 53). Steinkeller also mentions that the one of the Ur III versions, kur-ku-du3/ku-kur-du3 ranged in capacity between 30 and 600 liters, though 100 liters seems to have been its usual size” (Steinleller 1992: 54.)

Ortographycally the writing gur4-gur4 seems to be the original one, and gur8-gur8 a secondary development.
gurgur [FISH] wr. gur4-gur4 ku6, "a fish" gur4 < to be thick, gur4-gur4 mušen 'a bird' < gur4 'to be thick'
Unfortunately almost nothing is known about the bird and fish designated by the name *gurgur*. It’s a logical but purely speculative assumption that both were considerably big.

**sed**sedam [MORNING] wr. sed-sed-dam "early morning" < sed ‘to be cold’ = ‘it’s very cold’

This is a clear and interesting example of the use of stative verbs with intensified meaning. I would suggest the translation ‘dawn’ since the expression obviously refers to the coldest point of the day which is before sunrise. It is also an interesting syntactic construction because of the enclitic copula (sed-sed-am = to be cold).

**namzilzil** [PLEASANTNESS] wr. nam-zil-zil "pleasantness" < zil₂ ‘to be good’

This word is poorly attested again, since it appears only in one OB text, namely in Enlil and Sud, line 16, in which Enlil praises the beauty of Sud:

*nam-zil-zil a₂-še₃ nir im-te-ğal₂ lu₂ teš₂ nu-tuku-tuku-un*

„How impressed I am by your beauty, even if you are a shameless person!"

Though unfortunately we don’t have attestations of *nam-zil*, it seems to be appropriate to suppose an intensive form here.

**niği**kalkal [PRIZED] wr. niği₂-kal-kal "prized, valuable" Akk. šūguru < niği₂ ‘thing’ + kal ‘to be valuable’

**mušenturtur** [BIRD] wr. mušen-tur-tur "a bird" < tur ‘to be small’

**lumagalgalak** [BOATMAN] wr. lu₂-ma₂-gal-gal "a boatman" < lu₂ ‘person’ + ma₂ ‘ship’ + gal ‘to be big’

**gugalgal** [BEAN] wr. gu-gal-gal "a bean" < gu ‘stalk’ + gal ‘to be big’

**šeni**şturtur [CROPS] wr. še-niği₂-tur-tur "minor crops" < tur ‘to be small’

**lukurkura** [PERSON] wr. lu₂-kur₂-kur₂-ra "very strange person" < kur₂ ‘to be strange’

**namdidila** [SMALLNESS] wr. nam-di₄-di₄-la₂ "smallness" see description.

**namdidila** is one of more complicated cases of possible reduplication. Graphically the reduplication is obvious, since it is written with two TUR signs. It seems to be semantically transparent too, because tur means ‘small’ in Sumerian. The Old Babylonian lexical material, though, suggests another reading, especially OB Diri Oxford 71 and OB Diri Nippur 63.

**šegšeg** [BIRD] wr. šeg₅-šeg₅ mušen⁵; ši-ši-ig⁵ mušen; ši-ig-ši-ig⁵ mušen "a bird" (Akk. šeššeku) < šeg₅ ‘to be silent’. Since this bird remains unidentified (cf. Veldhuis 2004: 284), the meaning of the name is only a suggestion: it may be related to the lack of voice, or the low
voice of the bird. Since šeg₃ is a stative verb, an intensive reading is more probable than an event-external one.

Reduplication for participant plurality

This small group of nouns represents participant plurality: the reduplication marks that one of the participants is multiplied.

**ğeštuglala** [EARRINGS] wr. ğeštug-la₂-l₃₂ "earrings" < ğeštug ‘ear’ + la₂ ‘to hang’

This form has two attestations, both from lexical sources, INM – i, 18 (Ebla), and more importantly from ED Practical Vocabulary A, 18. in the form ğeštug-la₂-l₃₂ za-gin₃ ‘lapis lazuli earrings’ among other objects from lapis.

**niğtukutuku** [RICH] wr. niğ₂-tuku-tuku "very rich" < tuku to have
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