The functions of complete reduplication of nouns, verbs and adjectives – an obvious case?

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Abstract

The present work aims to give an overview of functions taken by the complete reduplication of nouns, verbs and adjectives in selected languages of the Altaic, Austronesian, Dravidian, Indoeuropean, Niger-Kongo and Sinotibetan language families. It investigates data from a grammatic-semantic point of view and approaches some questions on universal and iconic features of reduplication.

It is found that reduplication as mentioned is prevailingly used for the positive quantification of number, magnitude and intensity of the base word, heavily supporting the idea of an iconic use of this grammatical tool. However, both positive and negative functions are in use, sometimes within the same language and for reduplication of the same part of speech which raises doubts about a straight-forward theory of 'more denotation' meaning 'more referent'. Also, adjectives seem to show the least and verbs the most variation in functions which fuels hypotheses about a semantic hierarchy between syntactic constituents. Lines are also drawn towards grammaticalisation theory with a suggestion that grammatical concepts be placed along a continuum with the two extremes of concepts expressed by content words versus concepts expressed by phonetic means.
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1 Introduction

The present work is a comparative study of a few grammatical and semantic functions of reduplicative constructions in various languages.

By reduplication is meant (in a flexible way) the process of repeating all or part of a morphological unit, constituting a new morphological unit or at least part of such, taking some grammatical or semantic function. The reduplicated component or the morphological unit which it is part of is called the base whereas the resulting morphological unit is called the reduplicative; the latter term is sometimes used for the second component of the resulting unit alone. To avoid confusion I will use the term doublet in the latter sense. Where the doublet consists of the complete base, one speaks of complete reduplication, else partial reduplication is the case.

The main focus will be on comparing the meaning nuances for which different languages apply complete reduplication on nouns, verbs and adjectives. The choice of languages was influenced by an effort to go across family borders in order not to get too narrow a spectrum of possible functions of reduplication. Further, it has been influenced by accessible reference in terms of books/grammars and speakers.

1.1 Aim

Besides providing a brief overview of various functions of complete reduplication of a specific part of speech (henceforth referred to simply as reduplication unless stated explicitly), one general question aimed at is whether or not there is a (metaphorically) onomatopoetic or iconic origin to some or all occurrences of reduplication, i.e. whether or not there is any ‘obvious’ function of it that is conventional in most or all languages that use it. As we will see, the process of reduplication will result in seemingly different semantic modifications when used on different parts of speech. Will these modifications have a predictable outcome for the same part of speech across different dialects and language families or is there no ground for an onomatopoetic theory of reduplication? These questions cannot be answered with certainty in a small-scale work such as the present one, but the author hopes to draw preliminary conclusions that might serve as inspiration for future work on the topic.
1.2 Delimitations

Articles and books on the topic abound with exemplifications of various types reaching from complete reduplication via some obvious and some less obvious types of partial reduplication to most obscure types of phoneme-, mora- or even syllable skeleton reduplication. All these constitute instances of phonetic reduplication, i.e. reduplicating some phonetic aspect of the base, yet, linguists also talk of semantic and syntactic reduplication (and who knows what other kinds of reduplication might see the light of day when the matter is investigated again). Phonetic reduplication is the least abstract of the above and that is why I have chosen to use the plain term of reduplication in just that sense throughout the essay.

For the purpose of matching the size limitations of this work, I will – as mentioned above – restrict myself to compare only complete reduplication and only that applied to certain parts of speech, namely nouns, verbs and adjectives (henceforth N, V and A). During my survey of literature on the topic, other types of reduplication are discussed for the purpose of completeness and may be referred to occasionally in the rest of the essay where necessary.

It is not in the scope of the present work to give a precise definition of the various types of reduplication. However, the following guidelines were serving to make choices. As complete reduplication will be counted

(1) the complete reduplication of a word used alone to form a new word and
(2) the complete reduplication of a word or a base (if different from the original word only by missing affixes) accompanied by additional affixing and
(3) the complete reduplication of a word with the initial consonant or consonant cluster of the doublet modified if this is a productive feature of the language in question
(Turkish is an example of this; see Appendix I).

I will not consider onomatopoetic words and so called echo formation, or compounds of bases with phonetically similar doublets as reduplicatives unless productive since these seem to appear in almost any language.

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Likewise there is a natural need for restriction as to the number of languages considered. The complete list of languages investigated here (with their genetic relationships and later applied abbreviations) is thus as follows (in alphabetical order):

* Altaic: Turkish <Tur>
* Austronesian: Malay: Bahasa Indonesia (Western-Austronesian/Sunda) <Ind>
  Malay: Bahasa Malaysia (Western-Austronesian/Sunda) <Mal>
  Tagalog (Western-Austronesian/Central Philippine) <Tag>
  Thao <Tha>
* Dravidian: Telugu (Central Dravidian) <Tel>
* Indoeuropean: Hindi <Hin>
* Niger-Kongo: Ewe (Kwa) <Ewe>
  Kinyamwezi (Bantu) <Kin>
  Koromfe (Gur) <Kor>
* Sinotibetan: Cantonese <Can>
  Mandarin <Man>

The reader might have noticed that the languages of the Americas are more than underrepresented; the reason is that whereas languages with partial reduplication of some kind or other abound, it is extremely hard to find any American language that in fact uses complete reduplication.

1.3 Method

After compiling an overview on the topic of reduplication by reading various authors (see section 2 Presentation of literature), data in the shape of functions of reduplication were collected from grammars of the languages listed in section 1.2 (compiled in Appendix I). Each function of reduplication was given a code and charted in various tables (see Appendix II) according to intently atomic components of each function. Referring to patterns found in these tables I will continue with elaborations on differences and similarities of use and

Discourse Reader’, Routledge, London, pp54-62; it is striking how aware (non-linguist) speakers of a language are of the way it sounds, besides using it as a pure means of information transmission.
meaning of reduplication. Patterns that are relevant might be that the use of reduplicated adjectives for one and the same function recur across languages, or that distinct functions are found to have some characteristics in common that might explain their grammatically similar realizations. I will end my paper discussing the results of my comparison and summarizing the conclusions made, suggesting their general relevance.

2 Presentation of literature

Not much has been written about reduplication and that which has been written comes disguised in a chaotic heap of terms and definitions, some of which are attempted to be accounted for below.

First of all, that which is called reduplication in the present study may be delivered as duplication, iteration, reiteration, gemination or repetition, all of which may come translated into the respective language\(^2\) that a grammar is written in. The exact use of these terms is highly dependent on how reduplication is defined for the described language and on the author’s personal choice of arguments.

A non-controversial definition is found in Fromkin et al. (2000) whereby reduplication is said to be ‘a process by which all or part of a word is copied or duplicated to indicate a change in meaning or usage.’ (p. 61). This definition is useful in its introductory function as it is brief and very easy to understand and illustrate. However, for the aim of the present work, it will be of little use as it leaves undefined a) the place of the doublet in relation to the base (i.e. whether or not the base will be the first part of the reduplicative and whether the two items are adjacent and, if not, what may and may not stand between them and whether a new unit is formed and what that unit is) and b) whether or not other changes may take place simultaneously to derive the new meaning/usage of the word (applying to affixes or markers put before, inside or after the reduplicative string) as well as it does not apply to c) reduplicatives that modify the doublet in some way or other (as is the case with many onomatopoetic constructions, considered as instances of reduplication by a great many

\(^2\) For those readers that speak and/or research in Swedish, ‘reduplicering’ is one widespread such translation.
linguists). Further, it does, of course, not take care of the specific delimitations of the present work.

Not only is there great variety in terminology. Being worse is the existence of constructions dubiously counted as reduplication. So have Chinese scholars often considered occurrences of the following Cantonese construction as a type of reduplication (as in Mathews & Yip, 1994):

\[ \text{Heui-gwai-heui-mah me? Bindouh dou msai heui la.} \]
\[ \text{go-devil-go-horse PRT anywhere also no-need go PRT} \]
\[ \text{‘What’s the point of going? There’s no need to go anywhere.’} \]

The basic construction is ‘V-devil-V-horse’ or ‘A-devil-A-horse’, where thus the verb or adjective is said to be reduplicated. It would be rather daring to coin two new affixes -devil- and -horse in order to apply rule number (2) in section 1.2 above, hence, the construction does definitely not fall under the scope of the present work. I prefer to see this as a kind of sentence reduplication as also discussed in Appendix I.

2.1 Brandstetter

Brandstetter (1917) gives a great many examples from ancient Vedic, Germanic and other traditional literature. No explanation is given as to different categories of reduplication or the order in which the various examples appear. Furthermore, his work has a highly literary perspective and although linguistic structures are taken into consideration, there is little which is of interest to the analysis to be undertaken in the present paper.

2.2 Spencer, Marantz

Spencer (1991) gives an overview on what has been done on reduplication in the field of morphophonology. He refers mainly to Marantz\(^3\) who proposes that reduplication is affixation of a CV skeleton. This to eliminate the immeasurable variety of possibilities for reduplication

that in fact is not seen in any data recorded to date and to concentrate on the types actually encountered. Spencer also refers to Broselow & McCarthy\(^4\) who have extended Marantz’ model to fit further types of reduplication. For the reader interested in and familiar with metrics, syllable structures and the like, Spencer gives interesting insights about the morphophonology of reduplication.

### 2.3 Moravcsik

A couple of decades ago, Edith A. Moravcsik wrote a comprehensive article (Moravcsik 1978) about reduplicative constructions, examining them in depth and from a structural, functional and distributive point of view. She illustrates the concept of reduplication as a pair of equations as follows:

\[
\text{Utterance 1: } \ldots A \ldots = \ldots X \ldots \\
\text{Utterance 2: } \ldots B \ldots = \ldots Y \ldots
\]

(from Moravcsik 1978, p. 300)

Her definition of reduplication is in my own words as follows: Y is a reduplicated form of X if Y contains X, a modified version of X, a part of X or a modified part of X and if the meaning of Y (i.e. B) is not a reproduction of the meaning of X (i.e. A) in the same way as Y is of X\(^5\).

Elaborating on the form properties of reduplicative constructions by investigating four parameters, namely a) the properties of the reduplicated constituents found in her data, b) the number of times a constituent may be repeated, c) whether additional non-repetitive changes are made in the resulting sequence, and d) the temporal relations of the copies of the constituent to each other, Moravcsik proposes among others the following hypotheses:

1. There is no reduplication pattern where the constituent to be reduplicated may be freely chosen from among the included subconstituents.


\(^5\) This seems not true in one case, namely when using complete noun reduplication to indicate plurality and referring to exactly two objects; however, I prefer to let this objection remain on a philosophical level.
2. [...] 
3. There is no reduplication pattern which would not involve reference to lexical identity.
4. There is no reduplication pattern that would involve reference to phonological properties other than syllable number, consonantal-vowelhood, and absolute linear position.

from Moravcsik (1978)

Moravcsik moves on to examine the meaning properties of reduplicatives, which also is the main focus of the present work. She claims that ‘there is no a priori reason why reduplication, or any other form device of language, should serve as the expression of some meanings rather than as that of others.’ (Moravcsik, p.316). However, I do not fully agree with this point of view; in opposition to some other ‘form device’ of language, reduplication will, in addition to the base word’s grammatical category or phonological shape, depend on the base word as a whole, that is, on its phonological shape firmly attached to its meaning. That is, the further we move away from partial reduplication – where the resulting reduplicative word will show a change depending on phonological properties of the word – towards complete reduplication, the base word itself, cognitively inseparable from its meaning⁶, will be part of the resulting word twice. Hence, in a way, considering reduplication as a grammatical formula of the form [English] ‘a > an _ #V’ or [German] ‘Wasser GEN > Wasser + -s’ where ‘-n’ and ‘-s’ have no meaning alone, and ‘word >word x 2’ where ‘times two’ has no meaning of its own, Moravcsik is right about there not being any a priori reason to suppose that the grammatical phenomenon of reduplication should be reserved for any specific meaning related function across languages. Yet, thinking of the focused construction as ‘word > word word’ where ‘word’ does mean something, I claim that we have good reason to suppose the reserve of this construction for a language universally specific (and probably more or less obvious) use⁷.

As a matter of fact in Fromkin et al. (2000) one can read on page 64 ‘Since reduplication involves repeating all or part of a word, it is almost certainly not a coincidence that in many

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⁶ To illustrate this inseparability, I ask the reader to try to look at a string of letters without interpreting each letter and without reading the word and to try to listen to a string of articulated speech sounds which make up a proper word of a language that the reader understands, without interpreting their meaning; I also refer to the phenomenon that if we hear words of a language that we do not know, we often associate words with, or mishear them as, proper words of our own language. Hence I conclude that meaning is inseparable from a word once the word is a proper part of the vocabulary of a familiar language.

⁷ Likewise one could suggest a hypothesis that place prepositions be used as temporal metaphors in a great many languages for (the a priori) reasons that lie in the cognitive habits of the human brain (place prepositions would be less abstract and hence easier to understand; they thus would help develop temporal understanding).
languages reduplication refers to some type of plurality: of a verb’s subject [...], of a noun [...], or even of the number of times a verb's action occurs, or of the intensity of that action."

Although denying the existence of a priori reasons for conclusions about the function of reduplication across languages, Moravcsik nevertheless points out that ‘the particularly [sic!] meanings associated with reduplication strikingly recur across languages.’ (Moravcsik 1978, p. 316). She observes that the meaning of the reduplicative almost always includes the meaning of the base, yet the base never includes the whole meaning of its reduplicative. Another observation is that the cross-linguistically occurring meanings include pairs of opposites, e.g. augmentation versus diminution, in some cases even within one and the same language, and that many of the different modifications of the meaning of the base word are made in a quantitative dimension.

We have with this paragraph come to the kernel of the investigation attempted in the present paper.

3 Analysis

3.1 Methodical problems

First, a reminder should be given of the aim of the present work not being to provide a fully sound analysis of reduplication in general or in the analysed languages. Too little semantic information was available on most instances of reduplication throughout the collection of data so that rationalisations had to be made. The author's handicap is the only option being to rely blindly on the authors of the grammars studied. I shall bring up one typical example to illustrate this point: Many languages use verb reduplication to indicate some sort of increase of the action either by repeating (repetition) or by prolonging (duration, prolongation) the entire cycle of the action. Most authors do not comment on this tiny distinction, which leaves the question open whether they in fact make it at all. However, grammatical terminology (if supported by the examples given) was adopted under the assumption that authors were aware and making use of the distinction, mostly for reasons of making this essay an introductory
sample of investigation on the topic whose method of analysis may be reused on a better body of material.

Another major methodical problem arising – besides that of the precise definition of (complete) reduplication (see section 1.2 Delimitations) – is that of a precise definition of which components of a reduplicative should be counted as being responsible for the difference between the original word and its reduplicative. Sometimes additional affixes are used and it is not clear which of the two morphological devices is the one changing the meaning. In Chinese for example, adverbs are made from an adjective plus the particle de; however, the adjective in question may also be reduplicated and, again, with de, may be used as an adverb. Some authors chose to state that one way of deriving an adverb in Chinese is to use a reduplicated adjective and affix de (in which case the construction would well be in the scope of this paper, representing the use of adjective reduplication to derive adverbs). I have not come across any explanation as to why it is not the adverb being (partially) reduplicated to form a different adverb (in which case it would not be subject of this paper), or why it is not the case that the derivational affix de be added to any adjective, reduplicated or not (in which case the reduplication process has nothing to do with the formation of an adverb. Hence, dubious cases are discussed in Appendix I where examples of reduplication in the various languages are given.

Last but not least, it should be of particular interest to examine the use of reduplication in languages whose family members do not typically have reduplication, yet, it is not easy to find such languages (at least with the time available for this work). However, family membership is taken into consideration throughout the analysis, especially when dealing with statistics.

3.2 Collection and annotation of data

At first, data was collected from different grammars in the shape of examples and explanations of the use of reduplication in various languages. Each instance considered being a unique construction falling into the scope of this paper (for argumentation and elaboration on which examples were considered as such, see Appendix I) was given a code.
Coding was done in such a way that each language was given a three letter abbreviation (the three initial letters of the language’s name), followed by a part of speech indication (N, V or A); finally, similar codes in the same language were numbered. Codes are given in arrows. Hence, <CanN1> stands for Cantonese noun reduplication, function number one, <IndV6> for Indonesian verb reduplication, function number six, and so forth.

All unique constructions are accounted for in Appendix I, sorted by families, presented with their codes, examples, explanations and references; a more compact account is found in tables 1.1-1.3 (Appendix II).

3.3 Analysis of collected data

Secondly, all instances of reduplication were preliminarily analysed in a basic way into different categories (simply reducing the number of function-names). This was meant to make a more scientific comparison easier by, so to say, standardizing the variety of terms used in various grammars; it is not meant to be taken as the sole basis for further analysis.

Taking inspiration from this preliminary analysis (in the tables referred to as ‘prelim’), I have tried to split up all functions in various, intently atomic meaning components. Ambitions of completely describing each function (in such a way that no two functions described by the same component pattern should show any differences what so ever) were quickly discarded. Many instances are highly individual although this is not always or completely expressed by the differences in the grammatical terminology used by authors of grammars of different languages. This is not unexpected as the same holds true for many language universal phenomena, e.g. instances of simple past (or counterparts to the referent of the English denotation) across languages have many things in common while at the same time showing different nuances so that they might not be describable in terms of a single, common rule.

By then looking at component patterns, functions could be compared. The discussion at the end of this section is based on this comparison.

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8 If that were so, no analysis needed to be made in the first place.
3.3.1 Individual analysis of functions

The above introduced meaning components and their indexes and criteria can be listed as follows:

3.3.1.1 Number quantification (NQ)
Reduplication of a word is said to have a positive number quantification if the reduplicative refers to more entities than the base, likewise it is said to have (or could be said to have, in case that possibility really existed) a negative number quantification if it refers to less entities than the base. There is also external number quantification, which occurs when some referent other than that of the reduplicative gets quantified by the process; hence, the entity quantified (N, V or A) is shown behind a slash, for example: +/-V (read: by reduplication of the word in question, an action is repeated). Notice that this type of function is confined to number only, not to an amount in general. Also, when this function applies to noun reduplication, it almost always means that the action in the sentence is carried out by more subjects or on more objects, resulting in a quantification of the verb as well as the noun. That should be marked properly with '+/N,V', yet I have not done so (unless inspired by the grammar's original description of the function which might include the notion of the action to be quantified) due to the fact that a verb might be positively quantified either by restarting the action or by extending its duration, the latter of which should fall under another type of function described below.

3.3.1.2 Magnitude quantification (MQ)
As opposed to number quantification, magnitude quantification occurs if the reduplicative is of a different size than its base or causes some other referent (again, preceded by the slash) in the context to become a different size. For verbs I propose that this feature is expressed in the duration of the action. One problem arising from this is most grammars being inexplicit about the duration of reduplicatives that were assigned the formula 'V (faded)' in the preliminary analysis (see beginning of current section, 3.3). Most likely, I believe, there are two options for all instances of this type of reduplicated verbs, the first one being 'doing the action with low intensity' which has no specification as to the duration, and the second one being 'doing the action for a very short time' which, however, also seems to imply 'doing the action with
low intensity', especially since the two dimensions often imply each other on a semantic level\(^9\).

3.3.1.3 Intensity quantification (IQ)
Reduplication of a word is said to quantify the referent's intensity if the reduplicative refers to a more/less intense type of referent.

3.3.1.4 Content modification (CM)
A reduplicative is said to have undergone content modification if its referent is a different kind of object from the base.

3.3.1.5 Connotation of totality (CT)
A reduplicative function is said to convey a connotation of totality if the reduplicative refers to or extends over some number of entities that is seen as the total number in that context.

3.3.1.6 Structural function (SF)
The function of reduplication is said to fill a structural function if a) the reduplicative forms a different kind of syntactical or morphosyntactical constituent from the base and if b) reduplication is (one of) the devices that in fact achieved the change.

3.3.1.7 Discourse function (DF)
A few reduplicative constructions show a discourse function in that they do not alter the meaning of their own base or that of any other base, but rather give emphasis to and/or a particular opinion about their base.

3.3.1.8 Other functions
Constructions which could not be covered by any of the above criteria are represented in table 2.8 and will be discussed where applicable.

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\(^9\) E.g. one cannot wait, walk or sew a little for a, for the unmarked verb, normal stretch of time; notice, however, that in English, other constructions are often used instead of 'a little' to express the difference in what aspect the verb is quantified: do some sewing, wait for a while, take a few photos (the latter as opposed to Swedish where it is possible to say 'to photograph a little' where the object is part of the verb itself and hence leaves unspecified the dimension in which the action is to be quantified). In fact, a construction such as 'eat a little' can have a plus or minus value in three different dimensions, namely the way of eating, the amount of food eaten and the time consumed eating, giving eight possibilities, seven of which are (logical, if not idiomatic) candidates for the expression under consideration (the one not being a good candidate is obviously the one with all three dimensions carrying the plus value: 'taking a normal period of time to eat normally a normal amount of food')
3.3.2 Compilation of results in Appendix II

Tables 1.1 – 1.3 in Appendix II show the sum of all functions found in the data. Each of the three tables presents one part of speech. Given are then for each function the name or description of the function according to a relevant grammar referred to in Appendix I (where the terms passed on to the tables are written in **bold**), the result of the preliminary analysis (stated as a sort of formula), the code assigned to the function, the values assigned to the function for each of the meaning components and finally a number which was added after tables 2.1 – 2.8 were done and which will be explained below.

Tables 2.1 – 2.8 show the different meaning component combinations (henceforth 'patterns') found in the use of reduplication across languages. The presentation is set up as follows:

All patterns found in tables 1.1 – 1.3 were listed (sorted by meaning components) and each pattern was numbered (for later reference; numbers also occur in tables 1.1 – 1.3 for reference). The function codes (e.g. <MalA1>) were then associated with their respective patterns. Some patterns are presented twice or even thrice (the duplicates marked with parentheses) so that patterns could be grouped according to the different basic components (one table each). After that, some counting was done. Henceforth, to save space where necessary, figures for parts of speech and totals were separated by slash and dash: N/V/A-T. Given in tables 2.1 – 2.8 are the total number of functions taking the pattern in question ('Tot'), their distribution over language families (Al=Altaic, Au=Austronesian, Dr=Dravidian, Ie=Indoeuropean, Nk=Niger-Kongo, St=Sinotibetan) and the number of language families using the feature at least once (To=Total, family sensitive count). An appropriate name was given to each pattern (as to standardize the confusing terminology met in the various grammars, as was attempted by the preliminary analysis above, yet these new names have been arrived at with a greater degree of scientific reasoning). The figures of each pattern were then summed up in **bold**, thus showing how many functions in total that – insensitive of the exact pattern – use the particular meaning component of that table. In the bottom section, figures are rearranged in a part of speech insensitive way, i.e. several patterns have been grouped together if they differed from each other only in the part of speech they apply to. Even those patterns that could not be merged, were reinserted; hence, the figures in bold apply to either the part of speech sensible section of the table (summed up from the top down to the
row in bold) or the part of speech insensible section (summed up from the bottom of the table up to the row in bold).

### 3.3.3 Summing up to results

Tables 3.1 – 3.3 are found in this section and in Appendix II.

Table 3.1 then shows an account of all the individual patterns found, together with their names and part of speech distribution: $x/y$ reads as $x$ instances of that pattern in $y$ language families. Looking at the row labelled ‘T’, one can rank patterns according to the total number of language families that use the pattern (it is clear that the mere number of instances is not sufficient for this purpose since a multiple use of one pattern in one language or one family would give twisted results) and thus rank the most common usages of reduplication:

In all language families investigated is found pattern number 18 ‘intensification +, A’, that is, reduplication is used in all six families to intensify the characteristic denoted by an adjective. This is perhaps not unexpected, considering that even languages whose grammars traditionally not take up the term reduplication in fact do make use of it in this manner, e.g. Swedish:

*De fick bara en liten liten ersättning.*  
they got only a small small compensation  
‘They got only a very small compensation.’

Even the combined pattern 16&18 is found in all languages, however, this does not say too much since number 18 (adjective intensification, as described above) alone is sufficient and number 16 (‘intensification +, V’, i.e. doing an action with greater intensity) in fact only occurs in two families.

The combined pattern 1&2&3 is second runner up. Here, combining the individual patterns (1 ‘quantification +’, 2 ‘recurrence’, 3 ‘repetition’) makes more sense, as each of them per se only occurs in one to two families whereas their combination inspires to consider that which they really have in common to be an essential that could give a name to the combined pattern: ‘pluralisation of the base word’s referent’. None of the three individual patterns applies to
adjective reduplication, nor could this be the case since a pluralisation of a characteristic is meaningless.

Table 3.1 *Summary 1 – patterns*

<table>
<thead>
<tr>
<th>Name</th>
<th>nr.</th>
<th>N</th>
<th>V</th>
<th>A</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>quantification +</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>1</td>
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<td>5</td>
<td>1</td>
<td>1</td>
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<tr>
<td>distribution/intense</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
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<tr>
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<td>7</td>
<td>6/4</td>
<td>6/4</td>
<td></td>
<td></td>
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<tr>
<td>distribution</td>
<td>8</td>
<td>3/2</td>
<td>3/2</td>
<td></td>
<td></td>
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<tr>
<td>plural</td>
<td>9</td>
<td>2/1</td>
<td>2/1</td>
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<td></td>
</tr>
<tr>
<td>every time unit</td>
<td>10</td>
<td>1</td>
<td></td>
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<td>1</td>
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<td>diminutive</td>
<td>12</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>iteration</td>
<td>13</td>
<td>5/3</td>
<td>5/3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>intensive/durative</td>
<td>14</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>faded</td>
<td>15</td>
<td>3/2</td>
<td>3/2</td>
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<tr>
<td>intensification +</td>
<td>16</td>
<td>2/2</td>
<td>2/2</td>
<td></td>
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</tr>
<tr>
<td>casual</td>
<td>17</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
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<tr>
<td>intensification -</td>
<td>18</td>
<td>9/6</td>
<td>9/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>intensification -</td>
<td>19</td>
<td>5/4</td>
<td>5/4</td>
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<td></td>
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<tr>
<td>intense modified</td>
<td>20</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>derivation/intense</td>
<td>21</td>
<td>2/1</td>
<td>2/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>similarity/variety</td>
<td>22</td>
<td>4/2</td>
<td>1</td>
<td>5/3</td>
<td></td>
</tr>
<tr>
<td>derivation/adverbialization</td>
<td>23</td>
<td>1</td>
<td>5/2</td>
<td>1</td>
<td>7/2</td>
</tr>
<tr>
<td>attitude</td>
<td>24</td>
<td>4/3</td>
<td>1</td>
<td>1</td>
<td>6/3</td>
</tr>
<tr>
<td>special functions</td>
<td>25</td>
<td>4/3</td>
<td>2/2</td>
<td></td>
<td>6/4</td>
</tr>
<tr>
<td>1,2,3</td>
<td>3/3</td>
<td>4/2</td>
<td></td>
<td>7/5</td>
<td></td>
</tr>
<tr>
<td>4,6</td>
<td>1</td>
<td>1</td>
<td>2/2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7,8</td>
<td>6/4</td>
<td>3/2</td>
<td>9/4</td>
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<td></td>
</tr>
<tr>
<td>10,11</td>
<td>2/2</td>
<td></td>
<td></td>
<td>2/2</td>
<td></td>
</tr>
<tr>
<td>16,18</td>
<td>1</td>
<td>2/2</td>
<td>9/6</td>
<td>12/6</td>
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<tr>
<td>17,19</td>
<td>1</td>
<td>5/4</td>
<td>6/4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Third runners up are patterns number 7 ‘totality’ (i.e. the reduplicative referring to some number of entities that is seen as the total in that context), 19 ‘intensification –’ (occurring with adjectives, giving a less intense property than that of the base) and 25 ‘special functions’, the last of which cannot really be counted since it is merely a listing of very different functions, each occurring in only one language. Combining patterns 7 and 8 ‘distribution’ (also with adjectives, spreading the property over more entities) does not result in more families getting a common pattern, however, the two patterns do play a role later in the ranking of meaning components rather than individual patterns.
Coming down to patterns found in three or less families, the rankings are as follows; The lower the ranking, the more sporadic the occurrence of a pattern becomes, hence these patterns represent specific uses, not seemingly conforming to any language universal trend of usage of reduplication (see appendix I at respective function code sections for further elaboration on the meanings of the patterns below; the respective function codes are associated with their patterns in tables 2.1 – 2.8):

3 families: 13 ‘iteration’, 22 ‘similarity/variety’, 24 ‘attitude’;

2 families: 8 ‘distribution’, 15 ‘faded’, 16 ‘intensification +, V’, 23 ‘derivation, adverbialisation’, 4&6 ‘intensive/repetitive & distribution/intense’ and 10&11 ‘every time unit & duration’; patterns 2 ‘recurrence’ and 3 ‘repetition’ also occur in two families each but were counted before in terms of the combined pattern 1&2&3.

1 family: 5 ‘repetitive/low’, 9 ‘plural’, 12 ‘diminutive’, 14 ‘intensive/durative’, 17 ‘casual’, 20 ‘intense modified’, 21 ‘derivation/intense’; patterns 1, 4, 6, 10 and 11 are already accounted for above; in addition, here the special functions of pattern 25 should be mentioned (names taken from appendix I): change of state, consequence, exclusiveness, adverb of instantness, correlative clause, interrupted.

Table 3.2 shows how many instances and language families make use of a specific feature given the reduplication of a certain part of speech. The cells might be somewhat difficult to read; x/y reads ‘x instances of reduplication spread over y families’, most cells will look like this. Where applicable within the three quantification feature columns, there are three such pairs; one for the total number, one for negative quantification and one for positive quantification, in that order and the latter two marked with a minus and plus respectively. The figures are taken from the bold rows of tables 2.1 through 2.7, from the columns ‘Tot’ and ‘To’ except information about positive and negative quantification which had to be gathered from the non-bold sections of the same tables.

In total, number and intensity quantification are the two features present in all six language families, followed by modification of content which is used in five families. On a small scale it is difficult to say, how many language families should make use of a certain feature for it to be considered as a sort of standard or universal feature for reduplication and hence I leave it
up to the reader interested in numbers to further rank the usage of different features across parts of speech and families. Instead I will move on to comment on some of those combinations.

Table 3.2 Summary 2 – distribution of features and parts of speech

<table>
<thead>
<tr>
<th></th>
<th>NQ</th>
<th>MQ</th>
<th>IQ</th>
<th>MC</th>
<th>CT</th>
<th>SF</th>
<th>DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (27)</td>
<td>13/5</td>
<td>1-1</td>
<td>0</td>
<td>4/2</td>
<td>8/4</td>
<td>5/4</td>
<td>4/3</td>
</tr>
<tr>
<td>V (28)</td>
<td>6/3</td>
<td>9/4-3/2+6/3</td>
<td>6/3-2/2+4/2</td>
<td>1</td>
<td>0</td>
<td>5/2</td>
<td>1</td>
</tr>
<tr>
<td>A (22)</td>
<td>4/3</td>
<td>0</td>
<td>17/6-5/4+12/6</td>
<td>5/4</td>
<td>3/2</td>
<td>3/2</td>
<td>1</td>
</tr>
<tr>
<td>T (77)</td>
<td>23/6</td>
<td>10/4-4/2+6/3</td>
<td>23/6-7/4+16/6</td>
<td>10/5</td>
<td>11/4</td>
<td>13/4</td>
<td>6/3</td>
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</tbody>
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Table 3.2a Summary 2a – distribution of negative quantification

<table>
<thead>
<tr>
<th>quantification</th>
<th>Tur</th>
<th>Ind</th>
<th>Mal</th>
<th>Tag</th>
<th>Tha</th>
<th>Tel</th>
<th>Hin</th>
<th>Ewe</th>
<th>Kin</th>
<th>Kor</th>
<th>Can</th>
<th>Man</th>
</tr>
</thead>
<tbody>
<tr>
<td>only +</td>
<td>1/1/1</td>
<td>1/3/1</td>
<td>2/2/2</td>
<td>1/3/2</td>
<td>0/2/1</td>
<td>2/1/2</td>
<td>3/0/2</td>
<td>0/1/0</td>
<td>0/0/1</td>
<td>2/1/1</td>
<td>1/0/2</td>
<td></td>
</tr>
<tr>
<td>only -</td>
<td>0/1/0</td>
<td>0/0/1</td>
<td>1/1/1</td>
<td>0/0/1</td>
<td>0/0/1</td>
<td>0/0/1</td>
<td>0/0/1</td>
<td>0/1/1</td>
<td>0/1/1</td>
<td>0/1/0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>both + and -</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>none</td>
<td>1/0/0</td>
<td>1/2/2</td>
<td>2/1/0</td>
<td>1/0/0</td>
<td>4/0/0</td>
<td>2/0/0</td>
<td>1/4/0</td>
<td></td>
<td></td>
<td></td>
<td>1/1/0</td>
<td>0/1/0</td>
</tr>
</tbody>
</table>

It is surprising that there was no instance of verb reduplication resulting in some connotation of totality. The first factor that comes to mind is that no instances of verb reduplication were recorded from Hindi, a language which is sure to have plenty of uses for it. But another fact strikes the interpreter of the table: only three instances over two families of adjective reduplication meaning totality. This should not be due to the semantic properties of adjectives as it is possible to not only 'totalize' the number of bearers of the characteristic (as is the case in the three examples <IndA1>, <MalA1> and <HinA1>) but also totalize the presence of the characteristic to be spread over the whole of the (singular) bearer. Seeing a plural correlate as a single body, this is, of course, exactly what is the case, yet one would expect the singular version as well. Where to or when has this most obvious possibility of language use disappeared? Another 'missing element' is the magnitude quantification of adjectives. This is much more explainable since the 'magnitude' of an adjective is – pretty much uncontroversially as I believe – its intensity which we see quantified more than enough (in fact, more often than not). The last zero in table 3.2 represents noun intensity quantification. It might be semantically possible to talk about a more intense studying, a more police-like police man or even a more intense lilac, all of which were NP's. However, this seems rather odd and looking closer at the examples, the first one is denoting an action, any elaboration on
which might as well be expressed using the verb instead, the second one is intensified by
modifying one specific property of it which again might be done using the adjective instead
and the last one, similarly to the first one, denoted an entity belonging to a different semantic
category, namely a property, which is otherwise best expressed by using an adjective. These
illustrations were come up with hastily and there might or might not be counterexamples
and/or more types to examine; however, as a first glance reasoning for the small amount of
data involved in this study, I hope the reader is satisfied for now.

It can be seen that negative quantification occurs only with N- and V-MQ and with V- and A-
IQ. These are only four out of nine possible areas and even in those, negative quantification
never holds half or more of the total number of instances, except for magnitude quantification
of nouns where only one instance was recorded. Even though adjective reduplication quite
often seems to lessen the degree of intensity of the characteristic, the opposite scenario is far
more common (12 out of 17 cases). This lack of negative quantification very clearly indicates
an iconic use of reduplication and of extension of denotation to refer to a positively quantified
entity. One counter argument is the number of language families applying negative
quantification, which in all cases in fact is 50 percent or more of the families applying the
respective feature. This in turn shows something peculiar which can also be seen without the
help of the tables: just as is the case for negative intensity quantification with adjective
reduplication, 50 percent or more of the involved language families do apply its positive
counterpart; that means that there must be language families that apply both of them
simultaneously.

Table 3.2a shows which languages apply how many instances of positive and negative
quantification respectively. Already at first sight it is clear that no language does apply
negative quantification only, but all languages that do apply negative quantification, also
apply – and more so, in all but two cases – positive quantification. One of the two cases is
Kinyamwezi which uses only one function of reduplication, namely that of verbs to indicate
frequency but low intensity at the same time. Interpretation of this should be done with
caution since – as mentioned before – the labelling and exact description of the semantic
features of uses of reduplication is ever so author-dependent; it is well possible that within my
survey, other instances of verb reduplication connected to frequency and repetition do imply
low intensity as well. The other case, however, brings us to the point of looking at the
distinction positive/negative quantification: Koromfe has both positive and negative intensity
quantification within the same part of speech (adjective). The same holds for Malaysian, Tagalog, Hindi, Cantonese and Indonesian (verb reduplication). Malaysian, Tagalog, Indonesian, Cantonese and Hindi also show positive and negative quantification within the same part of speech but with different types of quantification.

These are interesting things to note. Not only does the use of negative quantification tackle the hypothesis that a doubling of the denotation be used iconically for an expanded referent, but rather this particular distributional pattern also raises the question of how a seemingly so obviously iconic tool of language can be used for different and even directly opposite meanings.

I will now try to elaborate on the question of which functions reduplication of a particular part of speech normally has or seems to have. Table 3.2 shows that positive number quantification is a feature of noun reduplication in five language families and positive intensity quantification is a feature of adjective reduplication in six families. As to function patterns (see table 3.1), noun reduplication can mean totality (pattern 7) in four families and adjective reduplication can mean positive intensification (pattern 18) in six families. Moving from family based to instance based counting, one sees that number quantification is used for 13 out of 27 instances of noun reduplication, giving 48%, clearly more than second runner up which is connotation of totality (8 out of 27, or 30%); adjective reduplication – even more than noun reduplication – has a very clear cut number one, intensity quantification, being present in 17 out of 22 instances or 77%, whereas number quantification only follows a long way behind in four cases or 18% of all instances. With verb reduplication, ranking is not as clear. Table 3.1 shows that even the most frequent patterns (repetition (3), iteration (13), derivation/adverbialisation (23)) are used by only four and five instances and even so, they are spread over no more than two and three families. It does not seem very convincing to talk about a 'most used' pattern. Neither does there seem to be any most used meaning component for verb reduplication: unlike with noun and adjective reduplication, taking positive and negative quantification together, magnitude quantification seems a plausible candidate with nine instances in four families, followed by number and intensity quantification with six instances each in three families each. Perhaps one can only state that quantification is a most common feature for verb reduplication, without specifying the dimension of the quantification. Trying to think of an answer to the question of why this distribution comes about, one might think of the relation between parts of speech and the syntactic constituents that they usually
head. An NP has many modifiable dimensions such as number, properties, gender etc. whereas an AP, which is ruled by the NP simply inherits all those and has nothing much of its own to be modified. VP's in turn govern NPs and have lots of possibly modifiable aspects and arguments. This is seemingly supported by looking at the number of patterns found for each part of speech where verb reduplication shows as many as twelve patterns, noun reduplication shows ten and adjective reduplication only seven patterns. However, these figures should be used with caution and are meant to inspire future investigations rather than to function as raw results; this is so because the mere numbers of instances investigated in each part of speech show exactly the same ranking hence looking at it from that angle it should not be surprising that 22 instances of adjective reduplication spread over less patterns than 28 instances of verb reduplication.

<table>
<thead>
<tr>
<th>fam</th>
<th>Al</th>
<th>Au</th>
<th>Dr</th>
<th>Je</th>
<th>Nk</th>
<th>St</th>
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<tbody>
<tr>
<td>lang</td>
<td>Tur</td>
<td>Tot</td>
<td>Ind</td>
<td>Mal</td>
<td>Tag</td>
<td>Tha</td>
</tr>
<tr>
<td>N</td>
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<td>9/3</td>
<td>2</td>
<td>4</td>
<td>3</td>
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<td>6</td>
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<td>10</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

It should have been interesting to see whether the use of reduplication given a certain part of speech is equally distributed across languages and families. Table 3.3 thus shows how many instances of reduplication of a specific part of speech occur in each language. In the columns for the total of each family (where several languages were investigated) x/y reads as x instances spread over y languages (as opposed to y families which was the case in earlier tables). One can see that all families apply reduplication of all three parts of speech (Hindi being assured (by Abbi 1980) to use verb reduplication as well although not recorded). However, this is not true for the individual languages, the 'zeros' being in Thao (which has no noun reduplication) and all of the Niger-Kongo languages with Ewe missing adjective, Kinyamwezi adjective and noun reduplication and Koromfe being without noun and verb reduplication. Unfortunately, the figures are just too small to draw conclusions about verb reduplication being the most and noun reduplication the least widespread device among the three (which in any case were a useless result since other parts of speech are reduplicated as well and the author's choice of nouns, verbs and adjectives is a random one in this context), although it seems like no coincidence that three of the four respective languages are from the Niger-Kongo family and furthermore constitute the whole representation of it.
Looking at how even the distribution of instances is, no clear results present themselves to the interpreter of the table, except that adjective reduplication never takes strikingly many functions in a language or language family. Where reduplication of some specific part of speech is predominant it is verb or noun reduplication.

3.4 Discussion of results

Patterns 1-21, capturing 53 out of the 77 instances of reduplication investigated, contain at least one of the quantifying features. 5 patterns (5, 12, 15, 17, 19) or twelve instances quantify negatively which still leaves 16 patterns having something in common: the enlargement of some semantic aspect of the referent of the base word. I do not believe that this is a coincident that came about besides there not being an a priori reason for reduplication to be used for some particular and frequent function, as Moravcsik (1978; see section 2 in this paper) argued, although admittedly, she was writing about all kinds of reduplication, not just complete reduplication. Taking help from historical linguistics, one finds that only a handful of the more common types of grammaticalisation (Campbell (1998) p240f) have a (functional) counterpart using reduplication as investigated here. This suggests to formulate theses of a classification of grammatical features in at least two categories (or two extremes along a continuum), the first consisting of concepts that are best expressed by verbal 'explanations', i.e. content words, that tend to undergo grammaticalisation, and the second consisting of concepts that are best expressed in an onomatopoetic, emotional and lyrical way, i.e. by using phonetic tools, e.g. reduplication, stress, tones etc. If one had at hand several essays such as the present one, dealing with different degrees of partial reduplication, I consider it possible that one would find a tendency for functions becoming more structural in nature as the amount of the reduplicated part of the base decreases. This would support my view that functions are not distributed randomly to both types of grammatical tools, i.e. morphemes attached independently of phonetics and onomatopoetic expressions alike.
However, it does not become clear that an enlarged denotation automatically points to an enlarged referent\textsuperscript{10}; instead, curiously, some languages enforce pairs of opposite modifications to referents of reduplicated members of some, in a few cases the same, parts of speech. I leave the drawing of a distinction between 'iconic' use – meaning larger denotation giving larger referent – and 'onomatopoetic' use – being more poetic/lyrical, making use not of the amount of sound but rather of the kind of sound (the repetition of some segments implying a lyric feeling of either decreasing or increasing emphasis on some aspect of meaning of the referent) – to whoever feels interested in taking on that task.

Furthermore, it can be pointed out that there seems to be a connection between the level syntactic hierarchy and the richness and variation of functions taken by the reduplication of a certain part of speech, with adjective phrases making up the lower sections of any syntactic tree and taking the least number of functions when reduplicated as opposed to verbs heading the top-level constituents and showing the greatest variety of functions through reduplication; nouns being in between the two.

\textsuperscript{10} Nor should this be expected to be the case; the world's languages apply plenty of diminishing affixes, all enlarging the denotation of some referent to be diminished.
4 List of References


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Appendix I

The following is an account of all instances of relevant data – i.e. unique functions of complete noun, verb and adjective reduplication in twelve languages belonging to six different language families. Unless specific reference is given, example sentences are taken from the book referred to at the beginning of their respective paragraphs. Likewise, all statements made about reduplication in the various languages are derived from the respective grammars referred to in the beginning of the paragraph or section unless specifically stated or given in [brackets] which the author reserves for her own comments. In certain cases ‘quotation marks’ have been used to recite the author’s original terminology.

As for example-sentences, the orthography – including hyphens, spaces, dots etc – of the original is kept except for a few special characters. Where necessary and possible I have added glosses or translations. This gives a mix of styles which however is unavoidable due to the great variety of sources cited. **Bold** strings represent data which were entered in the tables in Appendix II.

Coding – as mentioned in section 3.2 Collocation and annotation of data – is done as follows: each language has been given a three letter abbreviation, N stands for noun reduplication, V for verb reduplication and A for adjective reduplication; finally, each code is given a number to distinguish it from similar codes in the same language. Codes are given in angled brackets. Hence, <CanN1> stands for Cantonese noun reduplication, function number one, <TagV3> for Tagalog verb reduplication, function number three, and so forth. Examples and terms marked with empty angles, <--> , have not been entered into Appendix II.

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1 Altaic: Turkish

Lewis (1967) refers to ‘repetitions’ (p235ff) which are said to express duration (with verbs) <TurV1>, ‘the one more A than the other’ (plural nouns with reduplicated adjectives) <TurA1> and ‘distribution’ <TurN1> (according to the few accessible examples, I would rather use the term abundance):

<TurV1> çalıșacaksun, çalıșacaksunve muvaffak olacaksın
‘you will work, you will work, and you will be successful’

kalalım kalalım akışma kadar kalalım, sonra?
‘let us stay, let us stay, till evening let us stay; after?’
Alright, suppose we stay till evening; what do we do then?

The omnipresent problem is the one of definition of reduplication. Moravcsik (1978) demands the meaning of the reduplicated form not to be a mere doubling of the meaning of the non-reduplicated form which, however, is clearly the case in the translation of some the Turkish examples in Lewis (1967).

<TurA1> güzel güzel kızlar
* very beautiful girls
but: girls, each more beautiful than the last

yemi yemi ümitler
* very new hopes
ever-new hopes

<TurN1> avuç avuç paralar ‘coins by the handful’
sıra sıra dağlar ‘range on range of mountains’

One type of syntactic construction involves the repetition of a verb (hence, when Lewis speaks of ‘repetition’, he is perfectly right) but does not fall under the scope of this paper <--> (see also section 6.1 Cantonese):

<--> Gitti mi gitti
‘Did he go? He went.’
I’ll say he went.

Ilhtiyar zengin mi zengin
‘Is the old man rich? Rich’
The old man certainly is rich.

Lewis also speaks of ‘doublets’ most of which seem to correspond to the usual echo-words found in any language; yet there is one pattern describing similarity <TurN2> that is productive and which is most entertainingly illustrated in the citation that follows the first two examples:

<TurN2> dergi mergi ‘journals or periodicals and the kind’
reform meform ‘reforms and all that’
The late Prime Minister Menderes, on hearing that Harold Stassen was retiring as administrator of United States foreign aid, remarked: Stassen giderse, yerine Mtassen gelir. Yardimı ondan alırız. ‘If Stassen goes, some close facsimile of Stassen will take his place. We’ll get the aid from him.’

from Lewis (1967) p. 237

One thing to note about this is that in the cited example, the two parts of the ‘reduplicative’ are not adjacent. That gives rise to the question (for a non-speaker of Turkish, as I am) whether for the adjacent examples a conjunction was simply omitted as can be the case in many languages (such as Russian or Chinese) and hence, whether one can talk about reduplication in the strict sense.

2 Austronesian

2.1 Malay – Indonesian (Bahasa Indonesia)

Sneddon (1996) gives a very well-structured overview of the reduplication phenomenon in Indonesian:

Noun reduplicatives might be of the type that has no non-reduplicated counterparts. These are considered onomatopoetic by the author of the present work and hence not treated further. Other noun reduplicatives, however, do have an independent base. Functions are indication of similarity (as in Malaysian, see section 2.2) <IndN1>, and indication of plurality where it is not clear from the context (also very close to Malaysian) <IndN2>:

<IndN1> mata ‘eye’ > mata-mata ‘spy’
<IndN2> rumah ‘house’ > rumah-rumah ‘houses’

Sneddon argues that some writers ascribe to full noun reduplication the function of indicating variety (again, compare to Malaysian) but that he does not see any reason to do so. This very function reappears in so called imitating reduplication but has due to its lack of productivity not been counted in the present work.

Verb reduplication may loosen the intensity and intentionality of an action (‘casual or leisurely’) <IndV1>. It can also indicate ‘continued action, either an action done over a period of time [‘duration’ <IndV2>] or an action performed repeatedly [‘repetition’ <IndV3>]’ (p. 20). Another function of verb reduplicatives is giving a meaning strongly related to the base but modified towards a more intense action <IndV4> (‘modified intense’). Preceded by a negation, reduplicated verbs are used to imply that something did not happen against [held] expectations <IndV5>. Failing to explicitly comment on the productivity of all of the above functions, Sneddon gives one last function applying to ‘a few verbs’, replacing an entire correlative clause (with the respective subjunction; compare <IndA3>) <IndV6>.

<IndV1> me.lihat ‘see’ > me.lihat-lihat ‘browse, have a look around’
duduk ‘sit’ > duduk-duduk ‘sit around’

11 As – for a change – specifically indicated by the author of the grammar;
Potongan kayu itu ter.apung-apung di atas air.
‘The piece of wood floated on the water.’

Dia ber.teriak-teriak memanggil pelayan.
‘He shouted and shouted for the waiter.’

menjadi ‘become’ > menjadi-jadi ‘get worse’
berganti ‘replace’ > berganti-ganti ‘keep changing places, alternate’

Sudah dua hari Pak Tanto tidak muncul-muncul.
‘Mr. Tanto hasn’t turned up for two days now.’

Bangun-bangun mereka sudah bertengkar.
‘No sooner were they awake than they began to argue.’

Reduplication of adjectives occurring in plural noun phrases (not necessarily formally different from singular ones) ‘indicates that the characteristic indicated by the adjective applies to all the objects’ (Sneddon 1996, p. 19) <IndA1> (‘totality’). Further, a reduplicated adjective may replace a concessive clause (in its entire form, including the concessive subjunction) <IndA2> and it may function as adverb <IndA3>:

Gambar.mu bagus-bagus.
‘Your drawings are beautiful.’

Sakit-sakit, dia pergi juga ke sekolah.
‘Although sick, he still went to school.’

Anak itu berteriak keras-keras.
‘This child screamed loudly.’

[hyphens according to Indonesian standard orthography; glosses by author]

2.2 Malay – Malaysian (Bahasa Malaysia)

Karim et al. (1993) accounts for five functions of noun reduplication (p. 135f), namely simple pluralism <MalN1>, making a noun into a species name <MalN2>, similarity <MalN3>, variety <MalN5> and indefinity<--> (Karim simply fails to give any examples of reduplication involving nouns here, although the chapter is about nouns; instead, his examples involve interrogative pronouns, their reduplicative counterparts being indefinite pronouns; I have thus not taken indefinity into account in my table above). Examples are:
meja ‘table’ > meja-meja ‘tables’

biri-biri ‘sheep’ (Karim is not explicit of the use of these forms, some of which do, some of which do not have an non-reduplicated form; I am sceptical to this being an independently definable use of reduplication)

langit ‘sky’ > langit-langit ‘canopy’; gula ‘sugar’ > gula-gula ‘sweets, candy’

sayur ‘vegetable’ > sayur-mayur ‘vegetables’ (as far as my knowledge of Malay goes, I do believe that the echo-formation illustrated at this point in Karim is not a productive feature of Malaysian grammar and hence does not fall under the scope of the present paper. However, I believe that in those cases where there exists no idiomatic echo-type reduplicative, the usual reduplicative plural <MalN1> will have the same function)

On page 210, Karim then gives four functions of verb reduplication, namely repetitive aspect <MalV1>, durative aspect <MalV2>, serious aspect <MalV2> (I fail to reliably translate any of the examples given in Karim; all are, however, instances of echo-words and thus do not fall under the scope of my work unless productive; unfortunately I also fail to find information in Karim about the productivity of all of the types of reduplication, a phenomenon which is pointed out by Bakker and Parkvall (2002) who state that authors ‘hardly ever comment on the productivity of reduplications’) and reciprocity <MalV3>. Examples are [all are examples of complete reduplication; any phonemes not reduplicated are affixes]:

tergelak-gelak ‘burst into laughter again and again’

berangan-angan ‘have daydreams’

Dalam pertemuan itu mereka berpeluk-pelukan. During the meeting they embraced each other.

from Othman & Atosumarto (1995)

Karim says reduplicated adjectives to have the following functions: totality <MalA1>, and approximation <MalA2> (together with the circumfix ke- -an). ‘Partial’ reduplication (which I myself consider as partial as the type <MalA2> since the part not reduplicated is just an affix13 and which I hence have counted in) is said to convey ‘emphasis’ [intensification] <MalA3>:

Rumah di bandar itu besar-besar. ‘The houses in this city are all big.’

Warna payungnya kekuning-kuningan.

The question arises whether the semantic aspects under a) and b) stand in complemental distribution, the former applying to dynamic, the latter to stative verbs, in which case, again, I would not count both of them as independent features; since I have no proof of this, I have accounted for both features in the table; one way to proof the independence of Karim’s and other linguists’ features would be to use the same base word for all proposed features and illustrate the difference in example sentences.

Otherwise, partial reduplication in Malay is always realised either by initial Ce- reduplication or by modifying the initial consonant of the base; the latter is mostly referred to as partial reduplication in the literature, and since not productive it is, in fact, taken as such in this paper.
Colour umbrella. DET yellow-yellow
(The colour of) this umbrella is yellowish.

Bayi itu dalam keadaan takut-takutan semenjak disergah oleh abangnya.
Baby this in state fearful-fearful since startled by brother. its
This baby child is in a state of real fear since it got startled by his brother.

I have renamed the author’s term ‘emphasis’ with intensification as this terminology is used by other authors and as the former term might bring forth associations of a discourse function, which however, judging by the example, is not clearly the case.

Othman and Atosumarto (1995) (at least one of which has a clearly Indonesian name and both of which have written the Indonesian counterpart in the Routledge Colloquial Series) state that one way of deriving adverbs <--> in Malay is by reduplicating an adjective. However, Karim et al. (which is the official Malaysian grammar of the Malaysian Ministry for Language and Literature) claims (p xiii) that there is indeed no need at all for the word category of adverbs in Malaysian as predicate structures can not only consist of verb phrases but also of adjectival, nominal, or prepositional phrases; I could not find in the whole book any paragraph stating that a reduplicated adjective functions as adverb or adverbal phrase or that certain adjectives need to be reduplicated in order to function as such although I found one example sentence in which an adjective happened to be reduplicated, functioning as an adverbal phrase. Karim also uses non-reduplicated adjectives in adverbial position.

2.3 Tagalog

Blake (1925) reports several types of reduplication in Tagalog and, he is the only one to state that a word can be reduplicated by two means of reduplication at the same time, which he calls ‘combined partial and full’ reduplication and which, however, ‘has a distinct meaning of its own, and is not simply a combination of the two kinds with the meaning of both’.

Full reduplication of nouns expresses emphasis <TagN1> or distributiveness <TagN2>, or, together with the suffix –an, diminutiveness <TagN3>:

<TagN1> mulamulâ ‘at the very beginning’
<TagN2> araw’âraw ‘every day’
<TagN3> ibon ‘bird’ ibonibónan ‘little bird’

For verbs, full reduplication can have either an intensifying effect (‘emphasis’14) <TagV1> or a diminutive effect <TagV2>, [apparently] depending on the manner of pronunciation:

---

14 It seems to be the case that the concepts of intensification and emphasis are sometimes used interchangeably or without their literary meanings being considered. The reduplication of a noun in the case of <HinN4> is also described as ‘impl[y]ing an intensification of the noun under consideration’ and a sentence later the reduplicatives are said to ‘imply an emphasis on the N[oun]’ (Abbi, 1980, p. 136). Intensification of a noun, however, in my opinion carries the meaning of intensifying some or all semantic aspects of a noun, not its importance in the discourse, which I believe to be called ‘emphasis’, and which, in fact, is the meaning made apparent through the given examples in each of the two grammars (Abbi, 1980 and Blake, 1925). Importance in discourse, or emphasis, is nevertheless often represented by an intensification in (phonological) stress. In this case I disagree to describe the situation as the reduplicative implying ‘intensification’ or having the ‘effect’ of intensifying the stress. It merely together with the intensification of stress implies ‘emphasis’ or has the effect of...
As for adjectives, together with the prefix ka- reduplication of adjectives expresses the idea of superlative <TagA1>, whereas ma- plus reduplication has a diminutive notion <TagA2>:

<TagA1> ma|tam’ís ‘sweet’ > ka|tam’ís|tam’ís|an ‘sweetest’
<TagA2> ma|lakas|lakás ‘somewhat strong’

Schachter & Otanes (1972) report intensification of adjectives <TagA3> in addition to the above two functions being expressed by reduplication. A linker -ng- or -na- is inserted:

<TagA3> Sino ang matabang-mataba?
‘Who is the very fat one?’

They also report ‘intensive-repetitive’ verbal constructions’, expressing an intensive, repeated <TagV3> or (intensive,)15 prolonged <TagV4> [intensive-prolonged] performance of the action; a particle nang is inserted:

<TagV3> Tumawa nang tumawa si Juan.
‘Juan laughed and laughed.’

<TagV4> Papagtatrabahuhin nang papagtatrabahuhin ni Miss Reyes ang mga bata.
‘Miss Reyes will make the children work and work.’

2.4 Thao

Blust (2001), who gives a brief review of Thao reduplication in an article on Thao triplication, refers to Chang16, recognising full reduplication as signalling ‘repetitive <ThaV1> or continuative aspect <ThaV2> in the verb and intensity <ThaA1> in adjectives’ and rightward (a type of partial) reduplication complementing the former17 depending on the syllable structure of the base. Besides that, so called ‘Ca-reduplication’ <-- is found whose functions differ widely. Examples are:

<ThaV1> N/A
<ThaV2> dauk ‘stop’ > shi-daudauk ‘keep still’
<ThaA1> puzi ‘white’ > ma-puzipuzi ‘very white’

intensifying the emphasis. This shows what great an amount of caution is to be applied when consulting various grammars for a cross-lingual study.

15 I am citing Schachter & Otanes (1972, p. 398): ‘**Intensive-repetitive verbal constructions.** Any verb[...] that expresses an action being capable of intensive, repeated, or prolonged performance, may occur in an INTENSIVE-REPETITIVE CONSTRUCTION expressing such a performance of the action.’ By this and by the examples given, I conclude that the intensity component is always one of the two parts of the construction, the other part being either repetition or prolongation whichever applicable.


lunduz ‘straight’ > mia-lundu-nduz ‘go in a straight line’
rusaw ‘fish’ > tu-rarusaw ‘odor of fish’
tilhbu ‘encircle’ > tatilhbu ‘belt’.

Triplication is said to ‘function similar to reduplication but with added force’ (p. 329)

3 Dravidian: Telugu

Many of the comments found in Brown (1981) do not match my view of reduplication; it is accounted for concepts such as: ‘this is one story and this is one story’ adding to what Brown calls ‘reiteration’ the functions of distinction and distance (in time and space). One claim he makes which is not found in the grammars cited below is that of ‘reiterated’ nouns in the nominative case expressing ‘pre-eminence’ <TelN1>; unfortunately I am unable to transcribe the Telugu original and check whether the two instances of ‘rite’ are in fact adjacent.

<TelN1> ‘The evening rite is the rite!’

Arden (1969 [1873]) says the superlative degree sometimes to be expressed by reduplication of the adjective and that a distributive meaning then is implied (p. 78) <TelA1>. He also writes about reduplication of nouns and pronouns (meaning ‘every’ and ‘several, various’), but, his work is written for learners of the language who have already acquired the alphabet so that I could not extract any sufficient amount of information <-->.

<TelA1> ‘Today they cooked several very excellent curries.’
[again, I have no knowledge of how to transcribe the Telugu original]

Krishnamurti and Gwynn (1985, p. 277-9) report ‘adverbs of time and place’ to be reduplicated in order to express extra emphasis or the specific pluralism ‘every’. I suppose the authors had reasons for describing the process in this way (perhaps –aa is a derivative affix), yet, as an outsider one would probably think of it as the reduplication of nouns to function as an adverbial phrase. Brown (1981) seems to support this (p. 278), hence I have coded the phenomenon with a questionmark. <TelN2?>:

<TelN2?> iNTiNTaa raaTam tiragaali.
‘In every house a spinning wheel must spin.’

Nela nelaa jiitam Dabbuloonunci bhaaryaku kaasulu koneewaaDu.
‘Every month he used to buy gold coins for his wife out of his salary.’

The authors also claim non-finite verbs to be repeated twice or even thrice to ‘intensify’ their meaning <TelV1> (although I believe in seeing it as a durational effect, see Bhaskararao (1977, p. 4) who claims reduplicated verbs to ‘bring in the meaning of ‘doing an action for a longer stretch of time’.’):

<TelV1> weLLaleeka weLLaleeda weLLEEnu.
‘I went reluctantly’
lit. ‘Not being able to go and not being able to go, I went.’
Tini tini wisugu puTTindi.
‘He ate till he could eat no more’
lit. ‘Having eaten and eaten, disgust came.’

Bhaskararao (1977) says reduplicated nouns to occur with the verbs ‘to become’ and ‘to make’, the phenomenon being labelled ‘change of state’ <TelN3> in table 1:

<kappu mukka-mukkalu ayi-po:yindi
 cup     piece   pieces     became
 ‘the cup broke into many pieces.’

<va:Du annam         mudda-mudda ce:se:Du
 he       cooked-rice lump lump made
 ‘He cooked the rice into a lumpy consistency.’

Among the constructions treated as adverbs of time and place in Krishnamurti and Gwynn (1985), the following are found in Bhaskararao, there under the description of being a reduplicated noun indicating repetition of the action with similar places or people <TelN4>:

<Va:Du iNTi (i)NTi  ki: veLLe:Du
 he       house house  went
 He went from house to house.

Bhaskararao also claims that a reduplicated noun in the locative case expresses surprise about the action <TelN5>, as in

<Dabbu iNTlo:   iNTlo:    ma:ya maypo:yindi
 money house-in house-in disappeared
(Surprisingly) the money disappeared within the house.

And, I am citing Bhaskararao (1977, p 3): ‘A verbal noun (equivalent to -ing type nouns in English) can be reduplicated. This is used in expressing some consequences [<TelN6>] of an activity.’

<Ne:nu a:  velDam velDam va:Di daggariki veLLe:nu
 I        that  going    going    him     near   to   went
 ‘I went straight to him.’

Reduplicated adjectives are said to increase <TelA2>, adverbs to lessen the degree of intensity of the quality of the base word. (‘Here the case of less intensity can be viewed as a characteristic or quality spread over a larger area (giving rise to lightness in the case of colours, etc)’ from Bhaskararao (1977, p. 4))

<TelA2> --

4 Indoeuropean: Hindi

Anvita Abbi (1980) has been referred to in many of the references consulted in this work and considering the subtitle of his ‘Semantic grammar of Hindi – A study in reduplication’, this is
hardly surprising. He claims that complete reduplication, one of five types of Hindi reduplication\(^{18}\), occurs with nouns, adjectives, adverbs, verbs and pronouns, although verbs are unfortunately not treated in his work. He describes in greatest detail the semantic rules that lie behind different meanings of reduplication of the same part of speech. I shall not go deeper into these accounts but shall confine myself to give examples of the various meanings of reduplication regardless of their semantic distribution.

As for adjectives, a **distributive** <HinA1>, **intensifying** <HinA2> or so called ‘**approximating**’ effect <HinA3>, depending on semantic circumstances as mentioned above, is created through reduplication:

\(<\text{HinA1}\>) \quad \text{in uuNcii uuNcii diivaaroN ko kaise phalaaNgoge} \\
these high high walls how jump over \\
‘How would you jump over each of these high walls?’

\(<\text{HinA2}\>) \quad \text{uuNcii uuNcii uraan} \\
high high flight \\
‘A very high flight’

\(<\text{HinA3}\>) \quad \text{ah khattaa khattaa acaar hai} \\
this sour sour pickle is \\
‘This pickle is sourish.’

Nouns, likewise, show very distinct meanings when reduplicated in different semantic modes; those are ‘each, every’ (**distributiveness**) <HinN1>, **exclusiveness** <HinN2>, **recurrence** <HinN3>, **emphasis** <HinN4> and **iteration** <HinN5>:

\(<\text{HinN1}\>) \quad \text{larke larke ne khuun diyaa} \\
boy boy blood gave \\
‘Each boy donated blood’

\(<\text{HinN2}\>) \quad \text{larke larke yahaaN baith gaye} \\
boys boys here sat down \\
‘Only boys sat here.’

\(<\text{HinN3}\>) \quad \text{vo kal se raam raam rattaa jaa rahaa hai} \\
he yesterday from Ram Ram muttering \\
‘He has been muttering the name of Ram since yesterday.’

\(<\text{HinN4}\>) \quad \text{maine haNsii haNsii meN kahaa thaa} \\
I joke joke in said \\
‘I said it jokingly.’

\(^{18}\) For curiosity’s sake, allow me to slightly differ from the main thread of this survey and cite a (in turn) citation about echo words found in Abbi (1980, p. 8): ‘S.K. Chatterjee (1963) has defined echo words in the following way: ‘a word is replaced partially (partially in the sense that a new syllable; the nature of which is fixed, is substituted for the initial one of the word in question, and the word so formed unmeaningful by itself, echoes the sense and sound of the original word), and in this way the idea “et cetera” and things similar to or associated with that is expressed.’’ (cited in Abbi, from Chatterjee, S. K., 1963, Languages and Literatures of Modern India, Bengal Publishers, Calcutta).
Take this medicine every hour.

5 Niger-Kongo

5.1 Ewe

Ansre (1963) claims that ‘eight out of every hundred words in Ewe are reduplicated forms.’ (p. 128). Ewe reduplicates nouns, verbs, adverbs and sentences, the last two not being in the scope of this paper.

Reduplicated nominals (nouns as well as nounphrases) are used as adverbials <EweN1>:

\[<\text{EweN1}\> \quad <\text{EweN1}\> \quad \text{Éle kpó nyem ngkúxa-ngkúxa-e.} \]

‘He is looking at me with the corner of his eye.’

from: ngkú xa ‘eye side’

Verb reduplication has five apparently productive functions apart from one non-productive function. Together with the suffix -m, verb reduplication expresses continuous action <EweV1>, with some restrictions regarding the transitivity of verbs, it expresses the name of an action <EweV2> or the agent of an action <EweV3>, with the duplicate’s vowel being lengthened and its tone being high, it is used for adjective derivation <EweV4> and last, an adverb can be derived with additional affixing <EweV5>:

\[<\text{EweV1}\> \quad Kofi \; le \; zozom. \quad Kofi \; ano \; zozom. \]

Kofi TEN walk-walk-m Kofi TEN walk-walk-m

‘Kofi is walking.’ ‘Kofi will be walking.’

[TEN = tense marker]

\[<\text{EweV2}\> \quad \text{fø ‘to beat’ > fofø ‘beating’} \quad \text{Fofø ményó ná devi o.} \]

‘Beating is not good for a child.’

\[<\text{EweV3}\> \quad \text{sí ‘to escape’ > sisílá ‘escaper’} \quad \text{Sisílá fé afo de wotsóna.} \]

‘An escaper’s feet are swift.’

Note: I suppose that –lá is an intransitivity marker although not explicitly stated in the source.

\[<\text{EweV4}\> \quad \text{tsi ‘to grow’ > tsisíí ‘grown’} \quad \text{ame tisíí} \]

‘a grown-up person (elder)’

\[<\text{EweV5}\> \quad \text{lò ‘to love’ > lòlo-toe ‘lovingly’} \quad \text{Ékplá asi ko ne lòlotoe.} \]

‘She embraced him lovingly.’
5.2 Kinyamwezi

Maganga & Schadeberg (1992) say full reduplication to be productive with verbs and ‘express[ing] that the action is carried out frequently or that it is repetitive, and it implies low intensity.’ (p. 187) <KinV1>. Monosyllabic bases are trippled19. Examples are:

<KinV1>  
- *lila* ‘cry’ > *lilaalila* ‘cry a little’
- *seka* ‘laugh’ > *sekaaseka* ‘smile’
- *bitá* ‘pass’ > *bitáábita* ‘pass frequently’
- *sha* ‘grind’ > *shaashaasha* ‘grind slowly and carefully’.

Reduplicative nouns (p. 188) appear to be formed from bases of various parts of speech which, however, remains unexplained, as does the variety of meaning shifts produced by the process and the examples of reduplication of bases of other parts of speech. Examples are:

<--->
- *mhiindi* ‘evening’ > *kapiindi* `iindi ‘dusk’
- *biíhi* ‘near’ > *biíbiíhi* ‘nearby, recently’.

5.3 Koromfe

According to Rennison (1997), adjective reduplication has an intensifying effect <KorA1> unless used on colour adjectives where a diminution of the quality takes place <KorA2>:

<KorA1>  
- *duru* ‘all’ > *duru duru* ‘every single one’

<KorA2>  
- *somde* ‘red’ > *somde somde* ‘reddish’

6 Sinotibetan

6.1 Cantonese

For classifiers, which I (like in section 6.2 Mandarin) will treat as nouns, Mathews & Yip (1994) report a distributive meaning (which they call ‘quantification’, <CanN1>):

<CanN1>  
- *jek-jek (maau) dou leng*
  - clf clf (cat) all pretty
  - ‘They (the cats) are all pretty’

They also claim that certain nouns in their reduplicated form together with the particle *dou* serve as habitual adverbs <CanN2>:

<CanN2>  
- *chi chi dou* ‘every time’
- *lihn lihn (dou)* ‘every year’

19 Compare with Thao triplication; Blust (2001) presents data which I find unsatisfactory as evidence to prove the independence of triplication as a grammatical phenomenon. Thao reduplication, like Kinyamwezi reduplication, depends on morae and I suggest for a theory to be tested that metric reasons instead of semantic ones are responsible for a base in Thao to be trippled rather than doubled. Mathews & Yip (1994) mention one place classifier of Cantonese to be triplicated: *douh-douh-dou* ‘everywhere’. 
Commenting on a phonological rule they give more examples which to me present an even different meaning, that I have taken into account in the survey under the term ‘adverb of instantness’ <CanN3>:

<CanN3> fan fan jung ‘any moment’
       miuh miuh jung ‘any second’

As for verbs, many Chinese grammars consider as reduplication the following interrogative construction:

<--> Leih sik-mh-sik waaht-syut a?
       you know-not-know slide-snow PRT
       ‘Do you know how to ski?’

As seen, Mathews & Yip connect the various constituents with a hyphen although I would not have done so. Many other constructions which involve particles in between the two ‘reduplicatives’, some of them highly idiomatic, are also considered as reduplication. Some of them I would merely see as serial verbs, however, maybe serial verbs (and serial adjectives as also are found in some idiomatic expressions in many Chinese dialects) are true instances of syntactic reduplication. For the moment I prefer to see the above exemplified construction as no more reduplicative than Hamlet’s line ‘To be or not to be’.

The answer to the above example question given in Mathews & Yip (1994), however, is clearly an instant of reduplication, expressing the meaning of ‘doing the action a little’. There are also instances of reduplication where the inserted particle is optional (which is definitely not the case above), the meaning conveyed also being ‘diminutive’ <CanV1>:

<CanV1> sik-sik-dei je.
       know-know-ish PRT
       [I know] ‘Just a little.’

si-yat-si / si-si
       try-one-try
       ‘have a try’

gong-leuhng-gong
       talk-two-talk
       ‘have a chat’

Some example is given of reduplication with directional verbs:

<--> ni paaih di gupiu 'seung-seung-lohk-lohk', hou laahn gong ga.
       These days shares are 'going up and down', it's hard to say.

Together with the particle hah, reduplication expresses the action to be repetitive <CanV2> or ‘interrupted’ <CanV3>:

<CanV2> lam lam hah
'I've been thinking'

<CanV3> sihk sihk hah laai fan juehk jo
'fell asleep while drinking milk'

Mathews & Yip say that the reduplication of adjectives is highly idiomatic in Cantonese and the phonological outcome and exact meaning cannot be predicted. They account only for a few patterns, namely reduplication together with the particle dei to diminish <CanA1> the meaning and pure reduplication to make the meaning more vivid <CanA2>:

<CanA1> feih-fei-dei ‘rather fat’
     hong-hong-dei ‘reddish’

<CanA2> chih yat chih / chi-chih ‘very late’

Another construction described is one of an adjective or noun followed by a reduplication of an noun or adjective respectively. This is used to form an adjectival constituent for comparison with something that has the same property. Mathews & Yip say nothing about the productivity of this construction and I assume that there are a few fixed such expressions, which is the reason why I have not counted this in Appendix II; also, here exist no non-reduplicated counterparts.

<--> dung bing bing
     cold ice ice
     ‘freezing cold’

6.2 Mandarin

Li and Thompson (1981) list the process of reduplication for verbs among aspect markers (like the proper particles le or guo) and call the result ‘deliminative’ aspect, expressing the action of the verb being done ‘a little bit’ <ManV1> or being ‘tried’ <ManV2>. It is also used to soften a harsh request (since there is the option to do the requested action just ‘a little bit’).

<ManV1> Ni cai cai!
     you guess guess
     ‘Try guess!’

<ManV2> Ta shuo shuo yi xia zhei bian shi.
     he talk talk one bit this CLF matter
     ‘He talked a little about this matter.’

Reduplication of adjectives has an intensifying effect <ManA1> and is often used as adverb in connection with the particle de (however, reduplication is not necessary in order to use an adjective as an adverb, just as in Malay; hence in the coding, this is marked with a questionmark) <ManA2?>:

<ManA1> hong hong de hua
     red red REL flower
‘Flowers that are red’

<ManA2?> women shu shu fu fu de tang zai nar [from shufu ‘comfortable’]
we comfortable comfortable ADV lie in here
We lay there comfortably.

It is accounted for reduplication of ‘measure words’ which I categorise as nouns (and hence have counted in Appendix II), giving the meaning of ‘every’ <ManN1>. Moravcsik (1978) reports the same for non-measure nouns.

<ManN1> ge ge ren
piece.clf piece.clf person (clf = classifier)
‘every person’

tian tian
day day
‘every day’
(both from Li & Thompson, 1981)

ren ren
man man
‘everyone’
(from Moravesik, 1978)

Li and Thompson point out that kinship terms often are reduplicated forms. However, very few of their bases can stand independently, which makes them mere onomatopoetic words and since this is not a productive feature it will not be treated further here.
Appendix II

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<tbody>
<tr>
<td>Al</td>
<td>distribution ('coins by the handful')</td>
<td>many N</td>
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<td>similarity ('journals or periodicals and the kind')</td>
<td>N and the kind</td>
<td>&lt;TurN1&gt;</td>
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<td>Au</td>
<td>similarity ('spy' from: eye)</td>
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<td>&lt;IndN1&gt;</td>
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<td>plurality ('house-s')</td>
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<td>simple pluralism ('table-s')</td>
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<td>species name ('sheep')</td>
<td>N (species)</td>
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<td>+/N</td>
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<td>similarity ('canopy' from: sky)</td>
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<td>&lt;MalN3&gt;</td>
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<td>variety ('vegetable-s')</td>
<td>all of kind N</td>
<td>&lt;MalN4&gt;</td>
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<td>emphasis ('at the very beginning')</td>
<td>N (emphasized)</td>
<td>&lt;TagN1&gt;</td>
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<td>distributiveness ('every day')</td>
<td>all N</td>
<td>&lt;TagN2&gt;</td>
<td>+/N</td>
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<td>diminutivity ('little bird')</td>
<td>N (diminished)</td>
<td>&lt;TagN3&gt;</td>
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<tr>
<td>Dr</td>
<td>pre-eminence ('the evening rite is the rite')</td>
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<td></td>
<td>every ('in every house')</td>
<td>all N</td>
<td>&lt;TelN2&gt;</td>
<td>+/N</td>
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<td>change of state ('broke into many pieces')</td>
<td>N3 (changed to) N2</td>
<td>&lt;TelN3&gt;</td>
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<td></td>
<td>repetition of action ('from house to house')</td>
<td>(V N1...n) &amp; (N1=Nn)</td>
<td>&lt;TelN4&gt;</td>
<td>+/N, V</td>
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<td>surprise ('surprisingly within the house')</td>
<td>N (unexpected)</td>
<td>&lt;TelN5&gt;</td>
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<td></td>
<td>consequence ('I went straight to him' from: going)</td>
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<td>&lt;TelN6&gt;</td>
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<td>25-30</td>
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<tr>
<td>Ie</td>
<td>distributiveness ('each boy donated blood')</td>
<td>all N</td>
<td>&lt;HinN1&gt;</td>
<td>+/N</td>
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<td>x</td>
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<td></td>
<td>exclusiveness ('only boys sat here')</td>
<td>all = N</td>
<td>&lt;HinN2&gt;</td>
<td>+/N</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>x</td>
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<td>25-30</td>
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<td></td>
<td>recurrence ('he has been muttering the name of Ram')</td>
<td>V N (repeated)</td>
<td>&lt;HinN3&gt;</td>
<td>+/N, V</td>
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<td>--</td>
<td>x</td>
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<tr>
<td></td>
<td>emphasis ('I said it joke-ingly')</td>
<td>N (emphasized)</td>
<td>&lt;HinN4&gt;</td>
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<td>x</td>
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<td></td>
<td>iteration ('take this medicine every hour')</td>
<td>V (all (timeunit))</td>
<td>&lt;HinN5&gt;</td>
<td>+/N, V</td>
<td>--</td>
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<td>x</td>
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<td>11</td>
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<tr>
<td>Nk</td>
<td>adverbial ('with the corner of his eye')</td>
<td>N (adverbial)</td>
<td>&lt;EweN1&gt;</td>
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<td>x</td>
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<td>23</td>
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<tr>
<td>St</td>
<td>quantification ('the cats are all pretty')</td>
<td>all N</td>
<td>&lt;CanN1&gt;</td>
<td>+/N</td>
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<td>--</td>
<td>--</td>
<td>x</td>
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<tr>
<td></td>
<td>habitual adverbs ('every day')</td>
<td>all (time unit)</td>
<td>&lt;CanN2&gt;</td>
<td>+/N</td>
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<td>x</td>
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<td>adverb of instantness ('any second')</td>
<td>not many (time unit)</td>
<td>&lt;CanN3&gt;</td>
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<td>x</td>
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<td>25-30</td>
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<tr>
<td></td>
<td>every ('every day')</td>
<td>all N</td>
<td>&lt;ManN1&gt;</td>
<td>+/N</td>
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<td>--</td>
<td>x</td>
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</tbody>
</table>

20 This classification seems rather daring, yet, before further analysis, questionmarks had to be eliminated as far as possible since they are hard to handle statistically (one count each needs to be done for every possible combination, resulting in an exponential blow when dealing with more than one questionmark); the reader should feel free to question the analysis of <MalN2>.

21 To be frank, the author did not manage to fully understand this instance’s features; again, in order to eliminate questionmarks, it is supposed that none of the features in this analysis are applicable.

22 One wonders whether an analysis can be done correctly at all if the scientist does not know the language well; Cantonese has no plural affixation. Hence, ‘not many seconds’ are more than just ‘second’ which is the reason why -/N for quantification of number is simply out of the question. This might not have been the case if the author had not known about the absence of inflectional affixation in the respective language and statistics had turned out differently.
<table>
<thead>
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<th>SF</th>
<th>DF</th>
<th>nr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Al</td>
<td>duration (‘we stay till evening’)</td>
<td>V (prolonged)</td>
<td>&lt;TurV1&gt;</td>
<td>--</td>
<td>+/V</td>
<td>--</td>
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<td>13</td>
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<tr>
<td>Au</td>
<td>casual (‘sit around’)</td>
<td>V (casually)</td>
<td>&lt;IndV1&gt;</td>
<td>--</td>
<td>--</td>
<td>+/V</td>
<td>--</td>
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<tr>
<td></td>
<td>repetition (‘he shouted and shouted for the waiter’)</td>
<td>V (repeated)</td>
<td>&lt;IndV3&gt;</td>
<td>+/V</td>
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<td>modified intense (‘get worse’; from to become)</td>
<td>V (intense, modified)</td>
<td>&lt;IndV4&gt;</td>
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<td>--</td>
<td>+/V</td>
<td>x</td>
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<td>against expectations (‘did not turn up’; from to appear)</td>
<td>V1 immediately preceding V2</td>
<td>&lt;IndV6&gt;</td>
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<td>correlative clause (‘no sooner V1 than V2’)</td>
<td>V1 (immediately preceding V2)</td>
<td>&lt;IndV6&gt;</td>
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<td>repetitive aspect (‘burst into laughter again and again’)</td>
<td>V (repeated)</td>
<td>&lt;MalV1&gt;</td>
<td>+/V</td>
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<td>repetitive aspect (‘keep still’)</td>
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<td>intensifying effect (‘meditate profoundly’)</td>
<td>V (intensely)</td>
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<td>intensive-repetitive (‘he laughed and laughed’)</td>
<td>V (intense, repeated)</td>
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<td>+/V</td>
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<td>intensify (‘I went reluctantly’)</td>
<td>V (intensely or V (prolonged))</td>
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<td>Nk</td>
<td>continuous action (‘is walking’)</td>
<td>V (continued)</td>
<td>&lt;EweV1&gt;</td>
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<td>+/V</td>
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<td>name of an action (‘hearing’)</td>
<td>V -&gt; N (action)</td>
<td>&lt;EweV2&gt;</td>
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<td>agent of an action (‘escaper’)</td>
<td>V -&gt; N (door)</td>
<td>&lt;EweV3&gt;</td>
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<td>adjective (‘grown’; V -&gt; A)</td>
<td>V -&gt; A</td>
<td>&lt;EweV4&gt;</td>
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<td>adverb (‘lovingly’)</td>
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<td>&lt;EweV5&gt;</td>
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<td>X</td>
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<td>frequently/repetitive/low intensity (‘pass frequently’)</td>
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<td>&lt;KinV1&gt;</td>
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<td>-/V</td>
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<td>St</td>
<td>diminutive (‘I know just a little’)</td>
<td>V (faded)</td>
<td>&lt;CanV1&gt;</td>
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<td>+/V</td>
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<td>V (repeated)</td>
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### Table 1.3 Functions of adjective reduplication

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<td>the one more than the other ('ever-new hopes')</td>
<td>(N1...n = A) &amp; (Nn &gt;(A) N1)</td>
<td>&lt;TurA1&gt;</td>
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<td>Au</td>
<td>totality ('your drawings are good')</td>
<td>all N = A</td>
<td>&lt;IndA1&gt;</td>
<td>+/-N,A</td>
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23 see appendix 5.6 Mandarin;
### Table 2.1 Patterns with ‘number quantification’

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### Table 2.2 Patterns with ‘magnitude quantification’

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47
Table 2.3 Patterns with ‘intensity quantification’

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| (16,18) | -- | -- | + | -- | -- | -- | -- 1/2/9-12 | 1A 0/1/3-4 1/1/1-3 1A 1A 2A 1/2/6-6 | TurA1, MalA3, TagV1/A3, ThaA1, TelN1/V1/A2, HinA2, KorA1, CanA2, ManA1 |
| (17,19) | -- | -- | -- | -- | -- | -- | -- 0/1/5-6 | 0/1/2-3 1A 1A 1A 0/1/4-4 | IndV1, MalA2, TagA2, HinA3, KorA2, CanA1 |
| (20) | -- | -- | +/V | x | -- | -- | -- | 0/1/0-1 | 1V 1V | 0/0/2-2 | TagV4 |
| (21) | -- | -- | +/A | -- | x | -- | -- | 0/0/2-2 | 1A 1A 0/0/2-2 | TagV4 |
| (22) | -- | -- | +/V | +/A | -- | -- | -- | 0/0/1-1 | 1V 1V | 0/0/1-1 | IndV4 |

Table 2.4 Patterns with ‘modification of content’

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Table 2.5 Patterns with ‘totality’

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**Table 2.6 Patterns with 'structural function'**

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**Table 2.7 Patterns with 'discourse function'**

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**Table 2.8 Special functions (empty pattern)**

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### Table 3.2 Summary 2 – distribution of features and parts of speech

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### Table 3.2a Summary 2a – distribution of negative quantification

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### Table 3.3 Summary 3 – parts of speech across languages

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