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# Discontinuous reduplication: a typological sketch

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**Abstract:** The paper investigates discontinuous reduplication (DR), a pattern where reduplicant and base are separated by other material, by annotating a 214-example dataset collected from a 99-language sample. Several items turned out to serve as interposing elements, although their nature does not seem to correlate with function, unlike the category of the base. DR's functions are a subset of those associated with reduplication cross-linguistically. All languages displaying DR also present contiguous reduplication, suggesting a CONTIGUOUS REDUPLICATION > DISCONTINUOUS REDUPLICATION hierarchy. Finally, a corpus-based analysis of Italian (lacking DR according to grammars) unveiled a wealth of DR patterns, suggesting that corpora are essential for the typological enterprise.

**Keywords:** corpora; discontinuity; discourse(-sensitive) typology; Italian; reduplication; repetition; typology

## 1 Introduction

Reduplication is undoubtedly one of the linguistic phenomena that has attracted linguists' attention in the last decades. This is probably due to its fascinating duplicative, non-concatenative and polyfunctional nature. At the same time, there is as yet a shortage of adequate descriptions and, therefore, our understanding of the phenomenon is still largely limited (cf. Stolz 2008: 122 on full reduplication), for exactly the same reason: its formal and functional variability, both inter- and intra-linguistically, makes it particularly hard to catch its inner nature. In this paper, we aim at filling one of the many gaps still remaining in the domain of reduplication, by giving a first cross-linguistic description of one of the reduplicative patterns that have been described less, namely, discontinuous reduplication.

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To begin with, we define the main types of reduplication described in the literature (Section 2). Then, we narrow our object of analysis to discontinuous reduplication (Section 3) and present our methodology, i.e., the language sample and the parameters used for the analysis (Section 4). In Section 5, we present the formal and functional properties that discontinuous reduplication displays in the languages of our sample, while Section 6 focuses on the typological generalizations that can be identified from the observation of the available data. Finally, before concluding with some considerations and suggestions for future research (Section 8), we discuss a case study on discontinuous reduplicative patterns in Italian in the light of our cross-linguistic investigation (Section 7).

## 2 Reduplicative patterns: definitions and types

The strong (and still increasing) interest in reduplication has produced a considerable amount of knowledge about this phenomenon in all its manifestations, from both a theoretical and comparative point of view (e.g., Hurch 2005; Inkelas 2014; Inkelas and Downing 2015; Inkelas and Zoll 2005; Key 1965; Moravcsik 1978; Stolz et al. 2011; Urdze 2018; among many others) and a language-specific or areal point of view (e.g., Abbi 1992; Fabricius 1998; Mattes 2014; Mous 2013; Kallergi 2015; among others).

In the literature, several different definitions have been proposed. However, the most widely recognized definitions are the following ones:

The systematic repetition of phonological material within a word for semantic or grammatical purposes. (Rubino 2005: 11)

[T]he repetition of part or all of one linguistic constituent to form a new constituent with a different function (Inkelas 2014: 169)

In other words, reduplication represents the doubling of (part of) a linguistic element in order to express some kind of (grammatical or lexical) meaning. The most widely known classification is probably the one distinguishing between partial and full reduplication. While partial reduplication consists in the doubling of a subsegment of a linguistic element (be it a single phoneme or a syllable or even more than one syllable) and it may involve its initial, final or an internal part (cf. 1), full (or total) reduplication consists in an exact copy of the linguistic element itself (cf. 2).<sup>1</sup>

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<sup>1</sup> In the literature, it is not clear if cases of reduplication in which the repeated element is the whole root or stem (without derivational or inflectional morphemes) must be considered as a case of partial or full reduplication. We decided to not take a stance on this matter because it does not pertain to or alter our discussion.

## (1) PARTIAL REDUPLICATION:

- a. Initial: Tohono O’Odham (Uto-Aztecan, Southern Uto-Aztecan) [Fitzgerald 2001: 942]  
*pado* ‘duck’ → ***pa~pado*** ‘ducks’
- b. Internal: Djingili (Mirndi) [Fabricius 1998: 91]  
*jabandja* ‘young one’ → *jaba<ba>ndja* ‘young ones’
- c. Final: Luvale (Atlantic-Congo, Volta-Congo) [Horton 1949: 180]  
*cixika* ‘fever’ → *cixika~xika* ‘great fever’

## (2) FULL REDUPLICATION:

- a. Sundanese (Austronesian, Malayo-Polynesian) [Robins 1959: 355]  
*hayan* ‘want’ → *hayan~hayan* ‘want very much’
- b. Indonesian (Austronesian, Malayo-Polynesian) [Cohn 1989: 185]  
*búku* ‘book’ → *búku~búku* ‘books’  
*minúman* ‘drink’ → *minúman~minúman* ‘drinks’

However, some other special types such as echo reduplication/formation or automatic reduplication have also been recognized in the world’s languages (cf. e.g., Inkelas 2014; Rubino 2005). The former is defined by Inkelas (2014: 170) as the “reduplication of a word, with replacement of the onset or, sometimes, vocalism or internal material in one copy”; in other words, it consists in the repetition of an entire linguistic element, but the reduplicant<sup>2</sup> displays one segment that differs from the reduplicand (cf. 3a). The latter is a kind of “reduplication that is obligatory in combination with another affix, and which does not add meaning by itself to the overall construction”, as can be seen in the Ilocano example (3b), in which partial reduplication is mandatorily combined with the simulative prefix *agin-* (Rubino 2005: 18).

## (3) Other (minor) types of reduplication:

- a. Echo reduplication: Assamese (Indo-European, Indo-Iranian) [Goswami 1970: 192]  
*mās* ‘fish’ → *mās~sās* ‘fish and the like’
- b. Automatic reduplication: Ilocano (Austronesian, Malayo-Polynesian) [adapted from Rubino 1997: 110]  
*sangit* ‘cry’ → ***agin-sa~sangit*** ‘to pretend to cry’

Another type of reduplication that has been less widely investigated is discontinuous reduplication, the focus of Section 3.

<sup>2</sup> Generally, in the literature, the term *reduplicant* refers to the copy while the term *reduplicand* refers to the linguistic element that undergoes reduplication.

From a functional point of view, reduplication is often described as a highly iconic grammatical device, due to its “duplicative nature” (Inkelas and Downing 2015: 503). Hence, the functions that reduplication expresses are generally traced back to the notions of PLURALITY/AUGMENTATION/MORE/INCREASE, such as plurality, distributivity, pluractionality, and intensification. Despite this, the literature also acknowledges some other functions that have been described as non-iconic (e.g., diminution, approximation, focus, and so on). The debate on the alleged iconic nature of reduplication is extensive and, since it is not one of the topics we are going to discuss here, we will not go into it.<sup>3</sup>

### 3 Discontinuous reduplication: our object of analysis

This paper focuses on one of the special types of reduplication that still lack systematic description, namely discontinuous reduplication (henceforth DR). DR is generally defined as a kind of reduplication “where other morphological material may appear between the reduplicant and the base” (Velupillai 2012: 101; cf. also Rubino 2005: 17). Therefore, DR qualifies as a type of both “non-prototypical reduplication” in the sense of Urdze (2018) and “non-canonical reduplication” in the sense of Stolz (2018), since one of the basic features of reduplicative structures – namely adjacency – is breached.

We also take into account strictly morphological structures like those in (4) and (5), and more syntax-like strings like those in (6) and (7).

- (4) Manila Bay Creoles (Creole Spanish-lexified, Philippines) [Grant 2003: 205]  
*buníta* ‘beautiful’ → *bunita-ng-buníta* ‘very beautiful’
- (5) Alambalak (Sepik, Sepik Hill) [Bruce 1984: 165 quoted in Rubino 2005: 17]  
*hingna-marŋa-ba-marŋa-me-r*  
 work-RED-ba-straight-RM.PST-3SG.M  
 ‘he worked very well’

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<sup>3</sup> For a discussion on iconic versus non-iconic functions of nominal reduplication, see Mattioli and Barotto (to appear).

- (6) German (Indo-European, Germanic) [adapted from Finkbeiner 2015: 98–99]  
*Griechenland hin, Griechenland her: Staatsanleihen sind weiter attraktiv.*  
 ‘Whether Greece is in financial trouble or not (lit. Greece thither, Greece hither): government bonds are still attractive.’
- (7) Ewe (Atlantic-Congo, Volta-Congo) [Ameka 1991: 61]  
*ɖeɖi siaa ɖeɖi*  
 child every child  
 ‘every child’

Our choice of considering cases generally described as (morphological) reduplication and cases generally described as (syntactic) repetition is due to a difficulty in discerning them from a typological perspective (see Barotto and Mattioli 2020; Gil 2005; Stolz and Levkovich 2018).<sup>4</sup> In other words, we avoid positing a clear-cut boundary between morphology and syntax and between reduplication and repetition which could ultimately prevent us from unveiling interesting correspondences in cross-linguistic perspective. This also means that DR as we intend it includes what Inkelas (2014: 172) calls “syntactic doubling” (cf. the Ewe example in 7), i.e., a case where “the same word is deployed twice in a grammatical construction, sometimes separated by linking material or other syntactic elements” and what Stolz (2009: 101) calls “syndetic reduplication”, i.e., reduplicative constructions where two identical chains of segments are connected by additional phonological material, primarily a coordinative conjunction (8).

- (8) Latvian (Indo-European, Balto-Slavic) [Stolz 2009: 101]  
*Jaunais paziņa viņam patika arvien*  
 new:NOM.M.DEF acquaintance:NOM he:DAT appeal:PRET.3 always  
**mak-āk un mak-āk**  
**little-COMP and little-COMP**  
 ‘He liked his new acquaintance **less and less.**’

The latter example is reminiscent of Jackendoff’s (2008) NPN construction – exemplified by English expressions like *day by day*, *face to face*, *volume after volume* – where the linking element is a preposition instead of a conjunction.

Here, we focus on discontinuous patterns involving full exact reduplication (as in 4–7), leaving in the background similar strategies such as full but non-exact reduplication (cf. 9, where the repetition is not fully symmetric, due to the diminutive marker on the copy) or echo-reduplications that involve replacement of

<sup>4</sup> However, we keep this distinction in our dataset (see our formal parameters in Section 4). To do so, we decided to follow the description provided by the grammarian within the grammar and in the examples.

the beginning of the copy with a fixed substring (as in Yiddish-derived *shm*-expressions like English *breakfast schmeakfast*, cf. Inkelas 2014: 171).

- (9) Ewe (Atlantic-Congo, Volta-Congo) [Ameka 1999: 96]  
*ɲútsu gbɔ ɲútsu-í*  
 man vicinity man-DIM  
 ‘an effeminate/non-real man’

Our choice is driven by the fact that we are not sure that these phenomena can be interpreted as actual cases of DR. They seem to be special cases of DR (like 9) or different phenomena that at a first glance resemble DR (viz. echo reduplication). Since this is a first exploratory study of DR, we took into account only cases in which the repetition is exact, in order not to alter our description.

## 4 Methodology: language sample and parameters of analysis

As mentioned in Section 1, our aim is to offer a preliminary description of the formal and functional properties of what we define as DR from a cross-linguistic perspective. To do this, we need a sample of languages. Our sample counts 99 languages (see Appendix A) and was designed starting from the 76-language sample proposed by Bybee et al. (1994). We adapted the latter sample for our convenience, that is, we included Bybee et al.’s (1994) languages for which we had grammatical descriptions. We replaced languages for which we did not have a grammar with the genealogically most closely related language for which we found a grammatical description. We then added 23 new languages to this balanced sample, trying insofar as possible to maintain the overall balance. The addition is for convenience (all additional languages display DR patterns) and for maximizing linguistic variety. Consequently, our sample should be considered as something closer to a convenience sample than a variety sample, but, at the same time, it was not fully designed for convenience and therefore still retains some degree of representativeness. The geographic distribution of the languages within the sample is represented in Map 1.

In our sample, we found 24 (out of 99) languages displaying at least one case of DR. The geographic distribution of languages with at least one occurrence of DR is illustrated in Map 2.

Even though we cannot draw any areal conclusions because of the nature of our sample, it is nevertheless remarkable that almost all the languages we found



**Map 1:** Geographic distribution of the languages within our sample.



**Map 2:** Geographic distribution of the languages with at least one occurrence of DR within our sample.

displaying DR are mainly spoken in West Africa and South-East Asia, but also Oceania and South America. These are areas in which reduplicative patterns in general are particularly widespread. Interestingly, we did not find occurrences in

other areas in which reduplication is largely present, in particular North America (more specifically, Pacific Northwest languages, such as Salishan, Tsimshian, Wakashan, etc., cf. Mithun 1999: 42), but also East and South Africa (e.g., Cushitic – cf. Mous 2013 – and Nilotic, Khoisan, and Bantu languages, cf. Rubino 2005: 22).

It is also noteworthy that no European language in our sample was found to display DR, despite Stolz's (2009) findings (cf., e.g., the Latvian case in 8). However, this is not so unexpected if we consider that we based our cross-linguistic investigation on grammatical descriptions (and not on previous literature): it is well-known that reduplication in grammars of European languages is generally under-recognized, let alone *discontinuous* reduplication.

From a methodological point of view, we collected all the occurrences we could find within grammatical descriptions in a dataset and then we annotated each of them for five parameters, four of which pertain to form (i–iv) and one (v) to function:

- (i) Morphological reduplication versus syntactic repetition
- (ii) Nature of the interposing element (linker, adposition, etc.)
- (iii) Nature of the base (noun, verb, adjective, etc.)
- (iv) Presence versus absence of other (contiguous) reduplicative patterns in the same language
- (v) Function of the DR pattern

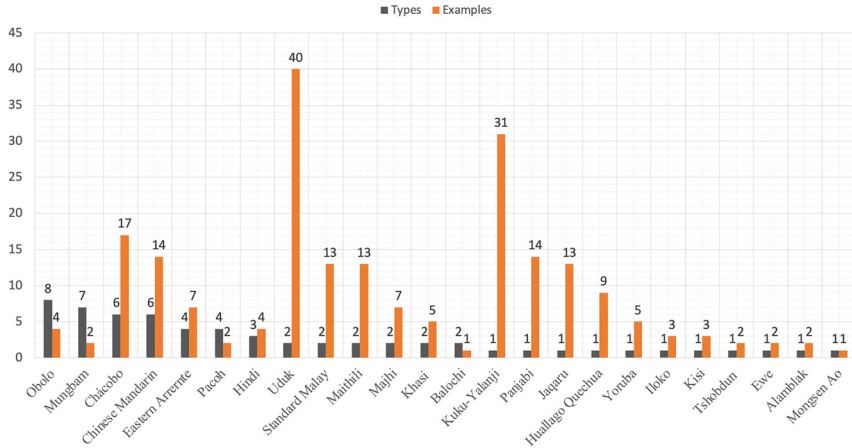
Our final dataset counts 214 examples corresponding to 61 different types of constructions<sup>5</sup> (see Appendix B) in 24 languages. The findings we are going to discuss in Section 5 are based on the number of types/constructions (and not on the number of examples), since the ratio between the two is quite uneven in our dataset. Consider the data in Figure 1.

Figure 1 shows the number of types and examples we found for each language displaying at least one case of DR. We can see that the overall picture changes if we consider the types or the single examples. The two languages with by far the highest number of examples are Uduk (Koman, Central Koman) and Kuku-Yalanji (Pama-Nyungan, Yimidhirr-Yalanji-Yidinic), with 40 and 31 respectively, but if we consider the number of types, the same languages have a much smaller number of constructions, both displaying only 2 DR types. This is obviously due to the fact that in Uduk we found 2 types of DR but, for one of them, we retrieved 39 examples (1 for the other type); in Kuku-Yalanji we found 2 types but, again, for one of them we retrieved

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<sup>5</sup> By *construction* we mean a fixed set of formal and functional properties. Thus, if two or more examples display the same values for all the parameters under consideration, we treat them as different occurrences of the same construction. Constructions as intended here are good candidates for being considered as constructions in the technical sense of Construction Grammar (Croft 2001; Goldberg 1995, 2006; Hoffman and Trousdale 2013), although an analysis in this direction would require a separate investigation.





**Figure 1:** Number of types and examples for each language within our dataset.

30 examples (1 for the other). In terms of types, the languages with the highest incidence and variety of DR are Obolo and Mungbam (both Atlantic-Congo, Volta-Congo), with 8 and 7 types respectively, followed by Chacobo (Pano-Tacanan, Panoan) and Chinese Mandarin (Sino-Tibetan, Sinitic), both displaying 6 different types. Most languages with DR, however, exhibit only 1 or 2 different types.

Since our main aim in this paper is to give a first typological sketch of DR, we want to avoid any over-representation of construction types that could blur our results, thus we center the subsequent discussion on types rather than examples.

## 5 Formal and functional properties of discontinuous reduplication

In this section, we discuss the formal and functional characteristics of DR based on what we found in our language sample. In Section 5.1, we present the formal properties of DR, while in Section 5.2 we focus on the functions that DR patterns express.

### 5.1 Formal properties of DR

As explained in Section 4, we annotated each construction type in our dataset according to the five parameters listed in Section 4. We will now discuss each of these parameters in more detail and illustrate the possible values with examples.

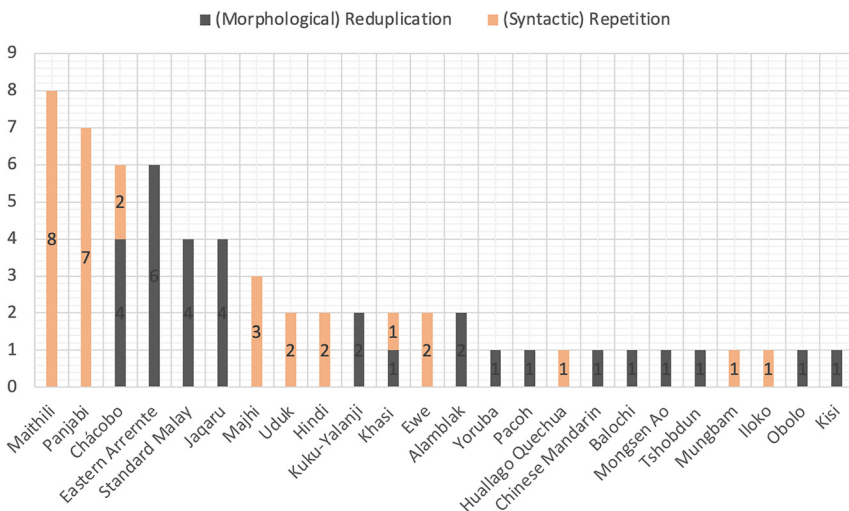
### 5.1.1 (Morphological) reduplication versus (syntactic) repetition

In our sample, we found occurrences of both (morphological) reduplication (10) and (syntactic) repetition (11).

(10) Standard Malay (Austronesian, Malayo-Polynesian) [Hudson 1995: 94]  
*saya kirim-men-girim surat dengan-nya*  
 I send-meN-send letter with-him/her  
 ‘He/she and I **send** letters to each other.’

(11) Ilocano (Austronesian, Malayo-Polynesian) [Rubino 1997: 149]  
*sao a sao*  
 talk <sub>LIG</sub> talk  
 ‘always talking, loquacious’

In the dataset we found 31 types of (morphological) reduplication and 30 types of (syntactic) repetition. If we look at the distribution of (morphological) reduplication and (syntactic) repetition for each language, we see that only 2 out of 24 languages show both strategies: Chácobo (Pano-Tacanan, Panoan) and Khasi (Austroasiatic, Khasi-Palaung). All other languages display either only reduplication or only repetition (Figure 2).



**Figure 2:** Number of types of (morphological) reduplication or (syntactic) repetition per language.

5.1.2 Nature of the interposing element

In our sample, we found 13 different types of interposing elements: adpositions, case markers, empathic markers, epenthetic elements, exclusive particles, intensive markers, linkers (e.g., ‘and’), negative elements, numerals (i.e., ‘one’), quantifiers, reciprocal markers, stative markers, and, finally, unknown elements. Figure 3 summarizes the number of types we collected for each kind of interposing element.

The types of adpositions we found in the dataset are elements that usually express comparative, instrumental, and spatial relations. In (12), we give an example of an adposition expressing a spatial relation.

- (12) Hindi (Indo-European, Indo-Iranian) [Kachru 2006: 101]  
*tum      **din**    **pər**    **din**    *qhīṭh*    *hote*            *ja*  
 you      **day**    **upon** **day**    impudent    become.IPFV.PL    go  
*rəhe*    *ho*.  
 PROG.PL    PRS.PL  
 ‘You are becoming more and more impudent **day by day**.’*

The second type of interposing element are case markers. The most common are genitive and dative markers. The latter is exemplified in (13).

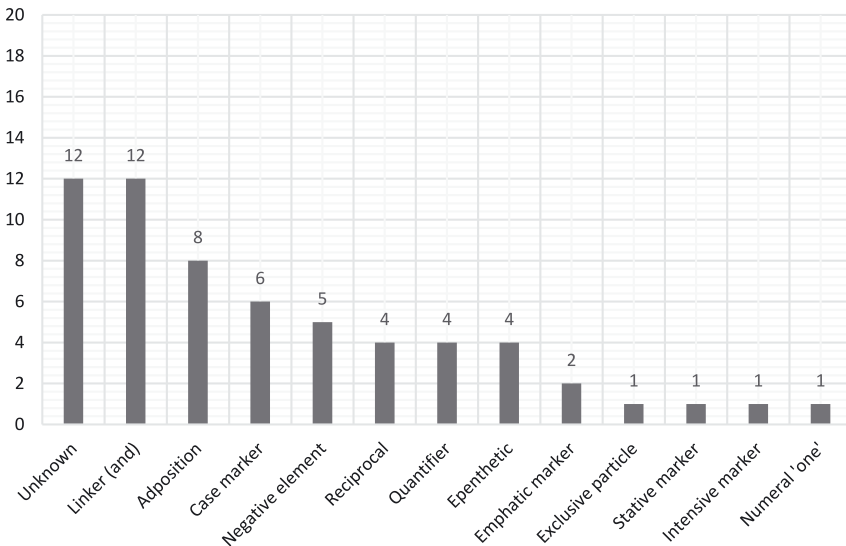


Figure 3: Number of types per interposing element.

- (13) Mparntwe Arrernte (Pama-Nyungan, Arandic-Thura-Yura) [Wilkins 1989: 348]

*Re gotta lhe-rle urrkape-tyeke arlte*  
 3SG.SBJ have\_to go-GEN.EVT WORK-PURP day

**arrpenhe-k-arrpenhe.**

**other-DAT-other**

‘He has to work **each day.**’

Markers that encode some kind of emphasis can be found in DR patterns, as in the Majhi (Indo-European, Indo-Iranian) example in (14).

- (14) Majhi (Indo-European, Indo-Iranian) [Dhakal 2014: 20]
- kapal* → *kapal-e kapal*  
 head head-EM head  
 ‘head’ ‘nothing but heads, all heads’

Some languages of the world display an interposing element that does not have (or no longer has) any kind of semantic value – that is, an epenthetic element (15).

- (15) Chácobo (Pano-Tacanan, Panoan) [Tallman 2018: 879]
- náa bari hawi mi a-ʔ-á=baʔina=ʔá*  
 DEM1 day thing 2SG **do~EP-do=ALL/EACH\_DAY=INTER:P**  
 ‘Just recently, today you had been killing the things (the monkeys)?’

In our sample, we found a single language displaying an exclusive particle in its DR pattern, i.e., Punjabi (Indo-European, Indo-Iranian):

- (16) Punjabi (Indo-European, Indo-Iranian) [Bhatia 1993: 98]
- dil vicc hii vicc*  
 heart **in** EXC.PART **in**  
 ‘**right inside** the heart’

In Mongsen Ao (Sino-Tibetan, Kuki-Chin-Naga), the interposing element is represented by the intensive marker *-tsáʔ*.

- (17) Mongsen Ao (Sino-Tibetan, Kuki-Chin-Naga) [Coupe 2007: 366]
- tsafùʔ pi la atsaŋ-tsaʔ-tsaŋ-àɿ-ùʔ*  
 cooking\_pot PROX TOP **be\_heavy-INTENS3-RED-PRS-DEC**  
 ‘This cooking pot **is really heavy.**’

One of the most frequent interposing elements are linkers. By *linker* we mean any element whose main function is to connect the two copies. In

the majority of cases, the linker is a coordinating element corresponding to ‘and’.

- (18) Kuku-Yalanji (Pama-Nyungan, Yimidhirr-Yalanji-Yidinic) [Patz 2002: 108, 229]

*dunga-y* → ***dunga-n-dunga-ri-y***  
 gO-NPST            **go-LNK-go-PL.SBJ-NPST**  
 ‘go’                **‘keep going’**

In two languages of the sample (Punjabi and Maithili), we also found negative elements interposed in DR patterns. See for instance (19).

- (19) Punjabi (Indo-European, Indo-Iranian) [Bhatia 1993: 220]
- ó    **ikk**    *na*    **ikk**    *day*    *aavegaa*  
 he    **one**    NEG    **one**    day    come-FUT.2M.SG  
 ‘He will come **someday or other**’

In Mandarin Chinese, the numeral ‘one’ can be used between two verbs.<sup>6</sup>

- (20) Mandarin Chinese (Sino-Tibetan, Sinitic) [Li and Thompson 1981: 209]
- xiào-yi-xiào*  
 smile-one-smile  
 ‘Smile a little!’

We identified three languages (Mparntwe Arrernte, Ewe, and Yoruba) in which the interposed element is a quantifier. See for instance (21).

- (21) Yoruba (Atlantic-Congo, Volta-Congo) [Bamgboṣe 1966: 153]
- ìwà*            →    ***ìwà-k-ìwà***  
 behavior            **behavior-any-behavior**  
 ‘any behavior, i.e., bad manners’

In Standard Malay (Austronesian, Malayo-Polynesian), we found a reciprocal marker intervening between the two copies:

- (22) Standard Malay (Austronesian, Malayo-Polynesian) [Hudson 1995: 93]
- kami*            ***kejar-meN-gejar***  
 we                **chase-RECP-chase**  
 ‘we **chased each other.**’

<sup>6</sup> See Basciano (2016) for an interesting diachronic analysis of the reduplicative V yi V pattern with respect to the contiguous VV type in Chinese.

The last interposing element we identified in our sample is a stative marker:

- (23) Uduk (Koman, Central Koman) [Killian 2015: 212]  
*jǎn* 'pér-á' 'pēr  
 DEM.MED red-STV RED  
 'That is red'

Finally, in several occasions (12 types throughout 8 languages), we were unable to find information on the nature of the element interposed within DR patterns. (24) is a case in point:

- (24) Jaqaru (Aymaran, Tupe) [Hardman 2000: 54]  
*t'usqi* → **t'usqi-ch-t'usqi**  
 dust **dust-ch-dust**  
 'dust' 'to be causing a lot of dust'

### 5.1.3 Nature of the base

In our dataset, we have 8 types of bases that can undergo DR: adjectives (25), adpositions (26), adverbs (27), nouns (28), numerals (29), quantifiers (30), verbs (31) and unknown class (i.e., elements for which we have no information, cf. 32).

- (25) Balochi (Indo-European, Indo-Iranian) [Axenov 2006: 88]  
*am-ē* **gwand-u-gwand-ēn** *zāg* *int-ī*.  
 EM-DEM **little-and-little-ATTR** SON COP.PRS.3SG-ENC.3SG  
 'This is his very little son.'
- (26) Punjabi (Indo-European, Indo-Iranian) [Bhatia 1993: 205]  
*ó ne báár de báár Taal ditaa*  
 he ERG **outside** GEN.M.SG.OBL **outside** put\_off give-PST.M.SG  
 'He put (me) off right from outside'
- (27) Mparntwe Arrente (Pama-Nyungan, Arandic-Thura-Yura) [Wilkins 1989: 182–183]  
*Kele mweteke there kaperte itwe-k-itwe ne-rlenge,*  
 O.K. car two(s) head **near-DAT-near** be-DS  
*itne ultake-lhe-ntyē re-nhe iteth-ile-ke.*  
 3SG.A break-RFL-NOM 3SG-ACC alive-CAUS-PC

‘So, when the two cars were bonnet to bonnet (lit. head near to near), they started the broken one (by jump starting it).’

- (28) Tshobdun (Sino-Tibetan, Burmo-Qiangic) [Sun 2014: 634]  
*sɲi-ku-sɲi*  
 day-ku-day  
 ‘every day’
- (29) Obolo (Atlantic-Congo, Volta-Congo) [adapted from Rowland Oke 2003: 164]  
*ítá-mè-ítá*  
 trois-et-trois [three-and-three]  
 ‘trois par trois [three by three]’
- (30) Uduk (Koman, Central Koman) [adapted from Killian 2015: 133]  
*rɪs* → *rɪs ká rɪs*  
 many many with many  
 ‘many’ ‘very many’
- (31) Mungbam (Atlantic-Congo, Volta-Congo) [Lovegren 2013: 197]  
*ù kpòŋ kà kpòŋ ì-kwèhɛ*  
 CL1.TOP (A)shout.IPFV ??<sup>7</sup> (A)shout.IPFV CL9-bird.type  
 ‘He is shouting [his battle cry] as the ikwèhɛ bird.’
- (32) Maithili (Indo-European, Indo-Iranian) [Asad 2015: 50]  
*koi nɔ koi*  
 some EM some<sup>8</sup>  
 ‘someone else’

From the quantitative point of view, verbs and nouns are the most commonly reduplicated categories, followed by adjectives, adverbs and, to a minor extent, numerals. The presence of other categories is quite sporadic, as illustrated in Figure 4.

This distribution is even more apparent when considering the number of examples/occurrences found per lexical category: while the type/token ratio is close

<sup>7</sup> Lovegren (2013: 197) notes that “a verb is repeated, and the two repetitions are separated by a particle *kà/teà*, whose meaning is unclear.”

<sup>8</sup> The glosses for this example were not taken from the bibliographic source, but were suggested by an anonymous reviewer, to whom we are grateful.

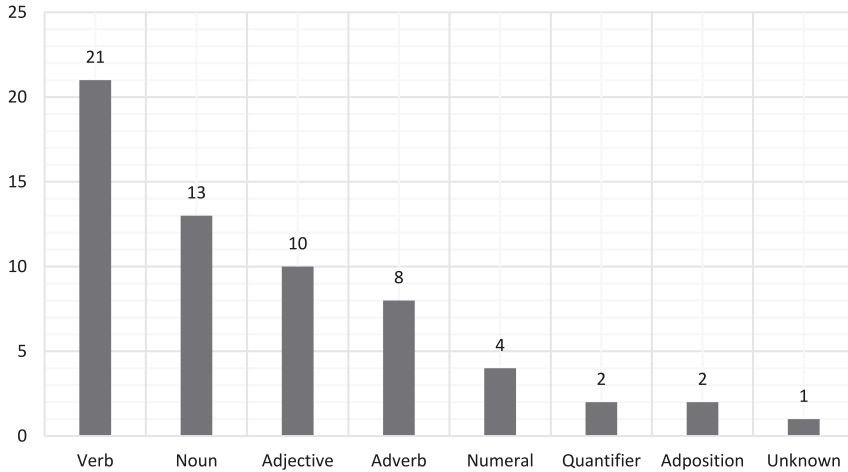


Figure 4: Number of types per nature of the base.

or equal to 1:1 for bases belonging to minor lexical categories, the number of examples per type is much higher for major lexical categories: 91 examples for 21 types with verbs, 29 examples for 13 types with nouns, 61 examples for 10 types with adjectives, 13 examples for 8 types with adverbs.

#### 5.1.4 Presence or absence of other reduplicative patterns

Our last formal parameter deals with the co-presence of DR and other kinds of reduplicative patterns. More specifically, we refer to prototypical cases of reduplication (i.e., partial and full reduplication) when the two copies are contiguous. Interestingly, in all the languages displaying DR, other reduplicative patterns are also attested. In (33)–(36), we exemplify cases of prototypical reduplication in four languages for which we have already presented some DR patterns: Ilocano (11), Jaqaru (24), Maithili (32), and Uduk (30).

- (33) Ilocano (Austronesian, Malayo-Polynesian) [adapted from Rubino 1997: 117]  
*Naut-ot ti bag~baga=na ken ag~bibbi~bineg ti*  
 ADJ-SORE ART RED~body=3SBJ.ERG and I-RED~numb ART  
*la~lasag=na*  
 RED~muscle=3SBJ.ERG  
 ‘His **whole body** was sore and (**all**) his **muscles were numb.**’



- (34) Jaqaru (Aymaran, Tupe) [adapted from Hardman 2000: 53]  
*Qaylla-q was yatx-k-ushu-q jal~jal-k-i-wa*  
 child-ss walk learn-SIM-SSUB-SS RED~fall-INC-3>3-SS  
 ‘Children, when they are learning to walk, **fall all the time.**’
- (35) Maithili (Indo-European) [Asad 2015: 31]  
*O git sunsIt sunsIt t<sup>h</sup>ɔJk gel.*  
 he song listen listen tired went.PST  
 ‘He got tired of **listening** to songs’
- (36) Uduk (Koman, Central Koman) [Killian 2015: 396]  
*ááí mí tō-ánsān ’kósh-í shúm kí*  
 3SG DO:PFV thing-DEM.PROX kill-AD2 animal COMPL  
**nyànyí~nyànyí**  
**many:IDPH~RED**  
 ‘He did this and killed **many** animals.’

## 5.2 Functional properties of DR

The DR patterns in our language sample can express quite a wide set of functions. More specifically, we identified 19 different functions: approximation, category-changing, continuativity, delimitation/diminution, distributivity, generality, greater plurality, habituality, identificational focus, inchoativity, indefiniteness, intensification, pluractionality, (additive) plurality, precision, predicativization, reciprocity, universal quantification. All of these functions are typical of reduplicative patterns in general (cf. Inkelas 2014; Inkelas and Downing 2015; Mattioli and Barotto to appear; Moravcsik 1978; Rubino 2005; among many others). Figure 5 provides a quantitative overview, illustrating the number of types/constructions per each function in our dataset.

Not unexpectedly, the most attested functions are intensification, distributivity, continuativity and pluractionality, whereas other functions like approximation, diminution or plurality are less common (see also Section 6). In what follows, we provide definitions and examples for each of the functions we identified.

The first is approximation, i.e., cases in which DR expresses an intentionally vague concept or non-prototypicality with respect to the item being reduplicated. See for instance (37):

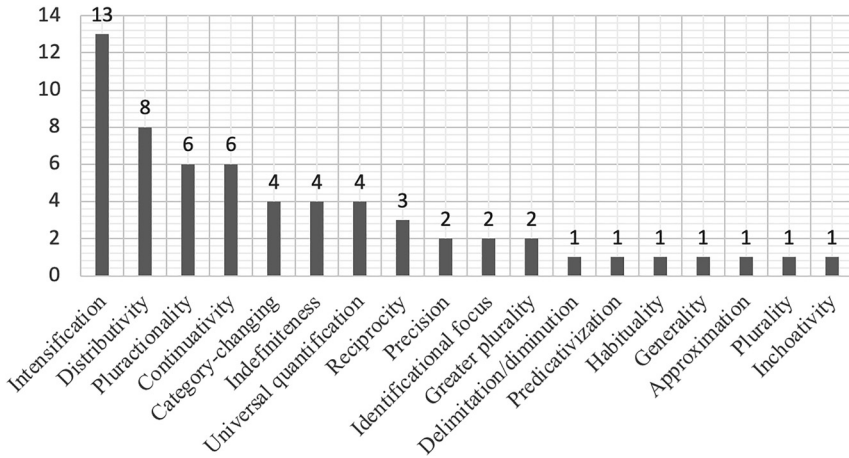


Figure 5: Number of DR types per function.

- (37) Ewe (Atlantic-Congo, Volta-Congo) [Ameka 1991: 61]  
*tɔde gbɔ tɔdɛ*  
 uncle side(/near) uncle  
 ‘a pseudo-uncle’

Rather than expressing a grammatical function, some instances of DR in our sample are employed to create a new lexeme, especially by changing the lexical category of the reduplicant. This category-changing property is found for instance in Khasi:

- (38) Khasi (Austroasiatic, Khasi-Palaung) [Abbi 1992: 27]  
*tuh → tuh sa tuh*  
 steal steal sa steal  
 ‘steal’ ‘crafty’

Sometimes, DR patterns are used to express that an event is prolonged over time. Continuativity is generally defined as the case in which “a dynamic situation is ongoing and [...] the agent of the action is deliberately keeping the action going” (Bybee et al. 1994: 127), as exemplified in (39):

- (39) Kuku-Yalanji (Pama-Nyungan, Yimidhirr-Yalanji-Yidinic) [Patz 2002: 62]  
*maja balka-n-balka-wa-y warru-warru-nji*  
 boss(master).ABS(s) talk-n-RED-RECP-NPST yg.man-RED-COM:PT  
 ‘The boss **is talking** with the young men.’

Delimitation/diminution describes cases of DR that depict a situation performed in a limited or short time frame. This is the case for the X-one-X construction of Mandarin Chinese:

- (40) Mandarin Chinese (Sino-Tibetan, [Li and Thompson 1981: 31]  
Sinitic)  
*nǐ wèn-yī-wen tā*  
 you ask-one-ask 3SG  
 ‘You ask him/her a little.’

Distributivity refers to the case when a property or an event is distributed over different entities or over time, and also the case in which plural entities are conceived individually.

- (41) Mparntwe Arrernte (Pama-Nyungan, Arandic-Thura-Yura) [Wilkins 1989: 345]  
*Nwerne lesson mape kalte-le-nthe-me*  
 1PL.A lesson PL(GRP) knowledge-LOC/INST-give-NPP  
**nyente-me-nyente.**  
**one-uq-one**  
 ‘We teach the lessons **one-by-one**. [i.e., in order, not so much one at a time]’

In Pacoh, verbs can undergo DR in order to refer to the situation denoted by the verb itself without any specific temporal or aspectual information. In other words, DR expresses the situation in general and, thus, we call this function generality.

- (42) Pacoh (Austroasiatic, Katuic) [Alves 2006: 37]  
 a. *ca:* → *ca:-ʔi-ca:*  
     ‘to eat’      ‘to eat in general’  
 b. *taʔ* → *taʔ-ʔi-taʔ*  
     ‘to work’      ‘to work in general’

Greater plurality is a particular case of plurality that “typically implies an excessive number, sometimes called ‘plural of abundance’” (Corbett 2000: 30). This is, for example, the case of a DR pattern in Maithili, as exemplified in (43).

- (43) Maithili (Indo-European, Indo-Iranian) [Yadav 1996: 92]  
*gam-ək gam*  
 village-GEN village  
 ‘A lot of villages’

Following Comrie (1976: 27–28), we define habituality as “a situation which is characteristic of an extended period of time, so extended in fact that the situation referred to is viewed not as an incidental property of the moment but, precisely, as

a characteristic feature of a whole period.” The DR pattern in (44) from Standard Malay conveys precisely this kind of situation.

- (44) Standard Malay (Austronesian, Malayo-Polynesian) [Hudson 1995: 96]  
*ayah karang-men-garang di tengah malam*  
 father **write-meN-write** at POINT\_OF\_TIME night  
 ‘Father **writes** at nights.’

In (45), we have a situation in which the term *jsl* ‘water’ in Maithili, when reduplicated with the interposition of the element *e*, encodes that only water (and nothing else) is present in the pond possessed by the speaker (and her/his associates). Since this function serves to contrastively identify the referent denoted by the base, we decided to call it identificational focus.

- (45) Maithili (Indo-European, Indo-Iranian) [Asad 2015: 50]  
*həmśra pokhśr me jsl e jsl c<sup>h</sup>əɪ*  
 our pond in **water e water** AUX.PRS  
 ‘There is nothing in our pond, **but water.**’

Inchoativity (or inceptivity) conveys when an “action or event begins” (Bybee et al. 1994: 318). The Chácobo example in (46) illustrates this kind of situation.

- (46) Chácobo (Pano-Tacanan, Panoan) [Tallman 2018: 880]  
*i-ʔ-i=baʔina=kan=á=ka bişpa tsi kiá hawi*  
**do~EP~do=ALL/EACH\_DAY=3PL=NMLZ:P=REL** skinny P5 REP 3SG:GEN  
*bakí şobo nia=baya=ʔita=ʔá=k bipaná ha*  
 child house leave=DO&GO:TR/PL=RECP=NMLZ:P=REL shed 3  
*his=baya=ita=ʔá=na*  
 see=DO&GO:TR/PL=NMLZ:P=EP  
 ‘They **started to work** all day and they left him thin when his son left the shed.’

In Punjabi, the reduplication of the element *koi* ‘some’ with the intervening negative particle *ba* expresses indefiniteness, since the head noun it modifies is perceived as indefinite rather than specific.

- (47) Punjabi (Indo-European, Indo-Iranian) [Bhatia 1993: 220]  
*ó koi ba koi kataab khariidegaa*  
 he **some** NEG **some** book buy-FUT.3SG.M  
 ‘He will buy **some** book **or other.**’

As noted, we found several cases in which DR expresses intensification. This function refers to the case in which the lexical meaning of the base that undergoes reduplication is in some way augmented, that is, intensified.

- (48) Alamblak (Sepik, Sepik Hill) [Bruce 1984: 165 quoted in Rubino 2005: 17]  
*hingna-marña-ba-marña-më-r*  
 work-**straight**-LIG-**straight**-RM.PST-3SG.M  
 ‘He worked **very well**’

The term pluractionality has become more and more common in (typological) linguistics in the last few years. It refers to “a morphological modification of the verb (or a pair of semantically related verbs) that primarily conveys a plurality of situations that involves a repetition through time, space and/or participants” (Mattiola 2019: 164). An example of this function is reported in (49).

- (49) Chácobo (Pano-Tacanan, Panoan) [Tallman 2018: 511]  
*bi=’~bi=’ rabi=’ wa=ki*  
**grab**=LNK~**grab**=LNK Rabi=ERG TR=DEC:P  
 ‘Rabi **grabbed it multiple times/multiple things**’

The term (additive) plurality represents the most basic plural function: it “refers to more than one real world entity” (Corbett 2000: 20). However, additive plural can have different values depending on the system it belongs to (if a language has the dual, then plural means ‘three or more’, and so on). Majhi displays a DR pattern carrying this function:

- (50) Majhi (Indo-European, Indo-Iranian) [Dhakal 2014: 21]  
*bari-ka sori-ne/sori rāila*  
 field-LOC **pig-EM/pig** be.3PL.PST  
 ‘There were **pigs** in the field.’

The function ‘precision’ refers to the case in which DR points to something specific, like a localization, as exemplified in (51) for Punjabi.

- (51) Punjabi (Indo-European, Indo-Iranian) [Bhatia 1993: 205]  
*ó ne báár de báár Taal ditaa*  
 he ERG **outside** GEN.M.SG.OBL **outside** put\_off give-PST.M.SG  
 ‘He put (me) off **right from outside**’

In Uduk, adjectives can be reduplicated with an intervening stative marker in order to make them function as a predicate. Thus, we call this function predicativization.

- (52) Uduk (Koman, Central Koman) [Killian 2015: 386]  
*dhàlì 'bòr-á 'bòr làkîñ 'dìsháñ shì?-á shì?*  
 and **good-STV** **RED** but now **bad-STV** **RED**  
*gòmà mùstákbàl mò*  
 for.CL2 future MO  
 'it was good but now it is bad for the future.'

Reciprocity obviously refers to the case in which the participants perform the same situation on each other, i.e., reciprocally. See (53) from Standard Malay:

- (53) Standard Malay (Austronesian, Malayo- [Hudson 1995: 92]  
 Polynesian)  
*kami bantah-mem-bantah*  
 we **object-meN-object**  
 'We **objected each other's** (opinions).'

Finally, we label universal quantification the case in which DR patterns express all the referents denoted by the base, i.e., its entire denotation.

- (54) Kisi (Atlantic-Congo, Mel) [Childs 1995: 192]  
*s̄ → s̄-ó-s̄*  
 chicken chicken-ó-chicken  
 'chicken' 'every chicken'

## 6 Typological generalizations and discussion

In Section 5, we described the DR patterns we identified in our language sample according to the formal and functional parameters proposed in Section 4. Here, we discuss the overall picture that emerges from our data and discuss our findings with particular reference to their typological relevance.

As mentioned in Section 5.1.2, we found quite a high number of possible interposing elements, including meaningless items, such as epenthetic elements, and meaningful items, both free and bounded. The most common interposing elements turned out to be linkers ('and'), adpositions (especially postpositions), case markers, and negative elements.

As for major lexical categories, the most frequent bases within our dataset are – quite expectedly – verbs and nouns, followed by adjectives, adverbs and numerals (cf. Section 5.1.3).

As pointed out in Section 5.2, the many functions conveyed by DR are those usually expressed by reduplicative patterns in the world's languages. Some of

them are more typically associated with certain lexical categories (see Figure 6) and this is quite in line with expectations: (i) adjectives tend to express intensification and distributivity; (ii) adverbs tend to express intensification; (iii) nouns tend to convey delimitation/diminution, distributivity, identificational focus, and greater plurality; and, finally, (iv) verbs tend to express continuativity, pluractionality, and habituality.

Interestingly, (additive) plurality (with nouns) is expressed only once. This is also not so unexpected. Recent works have shown that nominal reduplication is not so much related to plurality as previously thought: in Dryer (2013) only 8 languages out of 1,066 display full reduplication encoding plurality; and in Ivani and Zakharko’s (2019) nominal number database only 6 languages out of 237 employ some kind of reduplicative patterns to express plurality (cf. also Mattiola and Barotto to appear, which goes in the same direction).

Before collecting the data for our investigation, we expected to find some correlation between the nature of the interposing element and the value carried by the DR pattern. This was not the case: the type of interposing element does not seem to play a clear role in the functional interpretation of DR patterns. We found different kinds of interposing elements per function, as Figure 7 details. However, the limited number of constructions under observation does not allow for any statistical statement.

Overall, we can say that the lexical category of the base seems to play a greater role in the semantic interpretation of DR than the interposing element. In other words, discontinuously reduplicated verbs tend to express the same functions

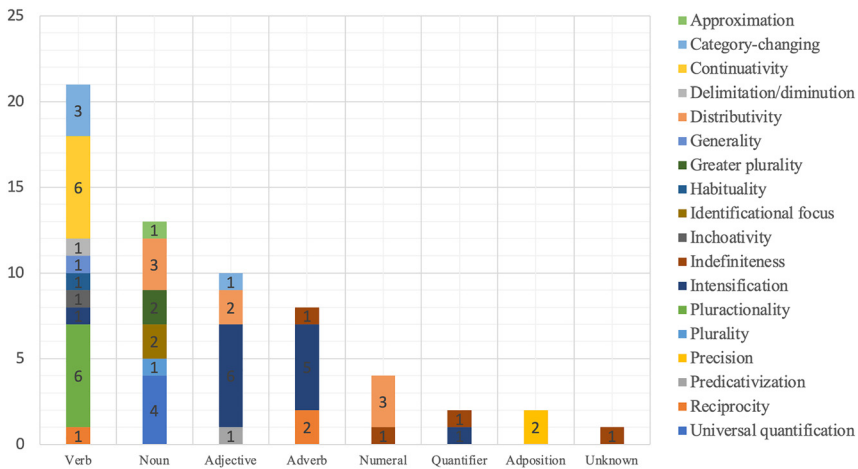


Figure 6: Number of functions for each lexical category of the base.

generally conveyed by contiguously reduplicated verbs, and the same applies to other major lexical categories. Therefore, ultimately, DR patterns seem to behave like standard reduplicative patterns, irrespective of the presence of the interposing element and its nature. This conclusion is reminiscent of what Stolz (2009) claims about syndetic versus asyndetic reduplication in European languages: the two strategies seem to be functionally equivalent.

Finally, probably our most important finding is related to the parameter ‘Presence or absence of other reduplicative patterns’ (Section 5.1.4): in all languages displaying DR, contiguous reduplication is also attested. Hence, there seems to exist an implication for what concerns the relationship between contiguous reduplication and DR. More specifically, the presence of a DR pattern implies the co-presence, in the same language, of a ‘standard’ (contiguous) reduplicative pattern, but the presence of the latter does not imply the co-presence of DR. This implication can be formalized in the following hierarchy:

CONTIGUOUS REDUPLICATION > DISCONTINUOUS REDUPLICATION.

This hierarchy is quite expected if we consider DR as a sub-type of ‘standard’ reduplication, but it is still relevant from a typological perspective and explains some properties of DR, such as the fact that DR conveys a subset of the values conveyed by standard reduplication in the world’s languages. Note that, in this subset, additive plurality is largely under-represented (we found only one occurrence), which is in line with recent investigations that – as mentioned

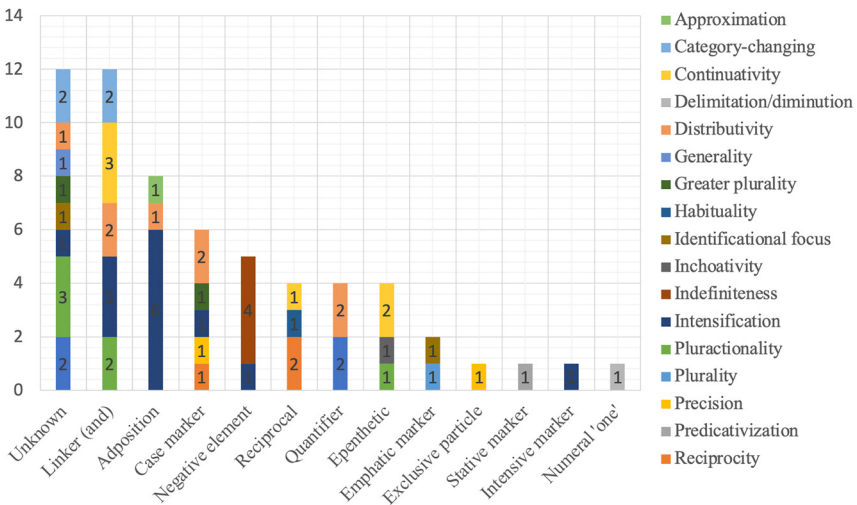


Figure 7: Number of functions for each type of interposing element.



above – challenge the central role of this function within the functional domain of (nominal) reduplication.

## 7 DR patterns in Italian: a case study

In this section, we offer a description of Italian DR patterns based on native-speaker intuition and (cursory) corpus search using *itTenTen16* (or *Italian Web 2016*), a very large (nearly 5-billion token) POS-tagged web corpus available on *Sketch Engine* (<https://www.sketchengine.eu/>). It is important to stress that what follows is not a comprehensive, quantitative account (which would require a separate study) but rather an initial, qualitative description, which aims at increasing our understanding of DR.

Another reason for adding this case study is to show how the picture you gain may differ when you move from a large-scale investigation based on descriptive grammars to a specific-language investigation which goes beyond ‘scratching the surface’. Italian is actually one of the languages included in our sample and for which we did not find any kind of information about DR patterns within the grammatical description we selected for the typological investigation: Maiden and Robustelli (2007). The authors do not mention any DR pattern for Italian, either morphological or syntactic. However, they do give information about contiguous reduplicative patterns. According to Maiden and Robustelli (2007: 355), Italian displays the repetition of adjectives (55a) and adverbs (55b) to express intensification, but they add that “[r]eduplication is sometimes encountered even in nouns”, in examples like (55c):<sup>9</sup>

(55) Italian (Indo-European, Italic) [adapted from Maiden and Robustelli 2007: 355]

- a. *Era un topo piccolo piccolo*  
 be.IPFV.3SG ART mouse:M.SG **little:M.SG little:M.SG**  
 ‘It was a tiny little mouse/It was ever such a little mouse’ (lit. **little little**)
- b. *Mi raccomando, fatelo presto presto*  
 1SG.DAT plead\_with:PRS.1SG, do.IMP.2PL:3SG **soon soon**  
 ‘Please make sure you do it as soon as you can’ (lit. **soon soon**)
- c. *Questo è caffè caffè*  
 this:M.SG be.PRS.3SG **coffee coffee**  
 ‘This is real/genuine coffee’ (lit. **coffee coffee**)

<sup>9</sup> Actually, Italian displays more types and functions of reduplicative patterns, which cannot be discussed here. See, e.g., Rainer (1983), Stolz et al. (2011) and Masini and Mattioli (2022) for an overview and further references.

However, we would expect Italian to display some DR pattern, especially if we consider that Stolz (2009) classifies it as a “middle-degree syndesis” language, based on parallel corpora investigation.

In order to uncover DR patterns in a bottom-up fashion, we devised the following procedure and we applied it to the *itTenTen16* corpus: we designed an advanced search (regular expression) to extract three-item strings made of two identical items X separated by a third item Y. Since major lexical categories are mainly involved in DR cross-linguistically (see Section 5.1.3), we restricted our analysis to these: hence, we asked for strings where the item X was tagged as noun, verb, adjective or adverb. As for Y, we excluded items tagged as punctuation or non-linguistic material. This query gave 1,698,429 hits. We then generated a frequency list of POS-patterns and we manually explored the 100 top results.

Perhaps not unexpectedly, the top-ranked (valid) POS-patterns turned out to be [N Prep N] and [N Conj N]. The latter is typically instantiated by expressions where the conjunction *e* ‘and’ conjoins two plural nouns, like *decine e decine* ‘tens and tens’, *anni e anni* ‘years and years’ or *pagine e pagine* ‘pages and pages’,<sup>10</sup> all conveying greater plurality (see for instance 56).<sup>11</sup>

(56) [N e N] pattern (*itTenTen16*)

*Ho una grande esperienza in merito, sono pugliese e come ogni salentino che si rispetti posso vantare **anni e anni** d’interminabili pranzi e incontinentibili cene*

‘I have a lot of experience in this respect, I am Apulian and, like every person from Salento worthy of its name, I can boast **years and years** of endless lunches and uncontainable dinners’

The [N Prep N] pattern, instead, is extremely variegated in both form and meaning: many different prepositions participate in this construction (e.g., *su* ‘on’, *per* ‘for’, *a* ‘at’, *dopo* ‘after’, etc.), which contribute to the semantics of the whole expression together with the type of noun involved. For instance, DRs with *dopo* ‘after’, *a* ‘at’, and *per* ‘for’ mainly convey distributivity (cf. e.g., 57) whereas those with *su* ‘on’ mainly express greater plurality (58), although some expressions are more

<sup>10</sup> In this section, since glossing the whole Italian examples is of little use for illustrating the points we are making, we gloss the literal translation of the reduplicative bit only. When the gloss would coincide with the English translation (as is the case with *decine e decine* ‘tens and tens’, *anni e anni* ‘years and years’ and *pagine e pagine* ‘pages and pages’), we provide the translation only.

<sup>11</sup> Masini (2006) mentions precisely expressions like *decine e decine* and *anni e anni* as a special type of binomials, together with patterns like *vecchio e stra-vecchio* ‘very old [lit. old and extra-old]’ or *fritto e ri-fritto* ‘trite [lit. fried and re-fried]’, which display an intervening prefix on the second copy. On the latter case see also Spitzer (1918: 201 fn. 1), quoted in Stolz et al. (2011: 88 ft. 89).

lexicalized and hence more idiosyncratic, e.g., distributive *porta a porta* ‘door by door’ (lit. door at door) versus *faccia a faccia* ‘face to face, in front of each other’ (lit. face at face); or greater plural *colpi su colpi* ‘many many blows’ (lit. blows on blows) versus *colpo su colpo* ‘blow for blow’ (lit. blow on blow).

(57) [N *dopo* N] pattern (itTenTen16)

*I dati relativi ai casi di femminicidio continuano a essere allarmanti: la cronaca li registra con agghiacciante ripetitività, **caso dopo caso**, e arriva a 125 donne nel 2012. Una donna ogni tre giorni.*

‘Data concerning cases of femicide continue to be alarming: the news record them with chilling repetitiveness, **case after case**, reaching 125 women in 2012. One woman every three days.’

(58) [N *su* N] pattern (itTenTen16)

*Il problema è che sono solo **fogli su fogli, cose su cose, segreti su segreti**. Sono silenzi che urlano fino a graffiarti i timpani. Lui è un niente che contiene tutto.*

‘The problem is that it’s only **sheets after sheets** (lit. sheets on sheets), **things after things** (lit. things on things), **secrets after secrets** (lit. secrets on secrets). It’s silences that scream until your eardrums are scratched. He is a nothing that contains everything.’

The [N Prep.Art N] pattern is also attested, but apparently valid examples are limited, like *mano nella mano* ‘hand in hand’ (lit. hand in.the hand), or strings like *secoli dei secoli* (lit. centuries of.the centuries), which are part of a larger prepositional phrase: *nei secoli dei secoli* (lit. in.the centuries of.the centuries) or *per (tutti) i secoli dei secoli* (lit. for (all) the centuries of.the centuries), both meaning ‘forever and ever’. The latter situation, which depicts a partial string preceded by a preposition, is quite common also in the [N Prep N] data. See for instance *casa in casa* (lit. house in house), which is actually used as *di casa in casa* (lit. of house in house) ‘from house to house’, again with distributive reading:

(59) [di N *in* N] pattern (itTenTen16)

*La dottoressa, così la chiamavano a Cervia, andava **di casa in casa** a visitare i suoi ammalati con una vecchia bicicletta.*

‘The doctor, as they called her in Cervia, went **from house to house** (lit. of house in house) to visit her sick patients with an old bicycle.’

One last case of DR we found with reduplicated nominals is exemplified in (60):

## (60) [N non N] pattern (itTenTen16)

*Strumento per determinare il grado di morbidezza di pelli, di pelli sintetiche, di **tessuto non tessuto** ecc.*

‘Tool (used) to determine the degree of softness of leathers, synthetic leathers, **non-woven fabric** (lit. fabric not fabric) etc.’

Here the two identical nouns are separated by the negative marker *non* ‘not’ and the whole construction conveys a function of approximation: *tessuto non tessuto* is something that looks like a fabric but is not properly a fabric because it is not obtained by weaving or knitting. Other (recently coined) instances of this pattern would be: *bollito non bollito* ‘meat cooked in a low temperature water bath within vacuum sealed bags’ (lit. boiled not boiled); *sapone non sapone* ‘cleanser that does not contain soap’ (lit. soap not soap); *talco non talco* ‘talcum-free product that serves the same function of talcum powder’ (lit. talcum powder not talcum powder); *colore non colore* ‘color that is not a proper color, like black or white’ (lit. color not color) (cf. Di Donato and Masini 2022).

Let us now turn to verbs. With the exception of a couple of lexicalized and idiosyncratic instances where the two copies are separated by the negation marker *non* ‘not’ (*vedo non vedo* ‘see-through effect’, lit. see.1SG.PRS.IND not see.1SG.PRS.IND) and the adverb/comparative marker *come* ‘like/as, how’ (*vada come vada* ‘come what may, whatever happens happens’, lit. go.3SG.PRS.SBJV not go.3SG.PRS.SBJV), discontinuously reduplicated verbs are typically found in the [V Conj V] pattern (with the connective *e* ‘and’), which conveys continuativity:

## (61) [V e V] pattern (itTenTen16)

*Vicino a me c’erano Pivo e Ciccio. Sedevamo nella stessa fila di banchi in fondo all’aula e mentre l’insegnante **parlava e parlava** senza che nessuno l’ascoltasse, noi contemplavamo con le mani nascoste sotto il banco le figurine vinte alle scommesse.*

‘Next to me there were Pivo and Ciccio. We sat in the same row of desks at the back of the classroom and while the teacher **spoke and spoke** without anyone listening, we contemplated the cards won by betting with the hands hidden under the bench.’

Adjectives and especially adverbs are also used as bases in DR patterns conveying intensification. Adjectives are mostly found separated by the adversative conjunction *ma* ‘but’ (cf. 62). The same intervening element is found with adverbs (e.g., *La situazione del piccolo George è molto ma molto critica* ‘The situation of little George

is very, very [lit. very but very] critical'), which are however coinjoined also by the (polyfunctional) conjunction *che* 'that/than' (e.g., *peggio che peggio* 'even worse', lit. worse than/than worse; *forse che forse* 'perhaps', lit. maybe that/than maybe), the adverb/comparative marker *come* 'like/as, how' (e.g., *ora come ora* 'nowadays', lit. now like now), and by prepositions: see the examples in (63), but also cases like *di tanto in tanto* 'every now and then' (lit. of much in much), with a double preposition.

(62) [Adj *ma* Adj] pattern (itTenTen16)

*E ciò indica in effetti che la rete internet offre **molte ma molte** opportunità per arrivare a ottenere i prodotti che noi desideriamo [...]*

'And this indicates, in fact, that the Internet offers **many many** [lit. many but many] opportunities to get the products we desire [...]

(63) [Adv Prep Adv] pattern (itTenTen16)

a. *Aggiungete **poco a poco** l'acqua e l'olio, mescolando continuamente.*  
'Add water and oil **little by little** (lit. little at little), stirring continuously'

b. ***Li per lì**, nessuno capì niente. Ma poi sono arrivate le spiegazioni*  
'**Right then and there** (lit. there for there), nobody understood anything. But then the explanations followed'

What this brief overview shows is the wealth of constructions ascribable to DR we could extract from corpora. To conclude this section, we would like to discuss two further instances of DR that did not emerge from our corpus search. These two remaining patterns were recently discussed in the literature and both present properties that set them apart from all the cases mentioned so far, with respect to both our cross-linguistic investigation and our intra-linguistic case-study.

The first construction, studied by Masini and Iacobini (2018), consists in the repetition of a numeral 'around' the nominal it modifies. This [Num N Num] pattern is quite peculiar because of the presence of a noun as interposing element, a category which is absent from our typological investigation (cf. Section 5.1.2). See the examples in (64) (from Masini and Iacobini 2018: 103):

(64) a. [...] *un uxoricida se l'è cavata con **due-giorni-due** di galera*  
'[...] a man who killed his wife got away with it with **two (two! can you imagine?!)** days in jail' (lit. two-days-two)

b. *Una spolverata di pepe, e se ne avete, **tre-gocce-tre** di vino bianco*  
'A sprinkle of pepper and, if available, **three (and no more) drops** of white wine' (lit. three-drops-three)

- c. [...] *quel Brasile che ha dichiarato **sette-giorni-sette** di lutto per commemorare la morte di Giovanni Paolo Secondo*  
 ‘[...] that Brazil that declared **seven days (seven! can you imagine?!)** of mourning to commemorate the death of John Paul II’ (lit. seven-days-seven)

In all these examples the [Num N Num] construction is used to express precision, i.e., ‘exactly two days’ in (64a) and ‘three and no more drops’ in (64b). However, according to the authors, an additional “subjective, evaluative meaning” can be identified in many cases. In (64a), for instance, the two days spent in jail are clearly judged by the speaker as not enough for that situation (‘only two days’), whereas the seven days of mourning in (64c) are obviously believed to be too many. Thus, these two expressions add a *paucity* and *excess* reading, respectively, in addition to precision (Masini and Iacobini 2018: 104), which might lead to consider this construction as a kind of mirative, as an anonymous reviewer suggests. Even though the pattern is not very common in Italian, it seems to have some degree of productivity. We mainly find small numbers (*due* ‘two’, *tre* ‘three’, and also *uno* ‘one’), but we do find cases with higher numbers too, as shown in (65a) (Masini and Iacobini 2018: 105). In addition, we found full phrases instead of single nouns enclosed within the two identical numerals (65b).

- (65) a. [...] *seppe rapire l’audience nel 2004 con **trenta-secondi-trenta** di apparizione*  
 ‘[...] (he) was able to fascinate the audience in 2004 with **just thirty seconds** of appearance’ (lit. thirty-seconds-thirty)
- b. *Tutto [...] risolto con **due-battute-di-dialogo-due** [...]*  
 ‘All [...] solved with **just two lines of dialogue**’ (lit. two-lines-of-dialogue-two)

The second construction which is worth mentioning is a pattern of DR that features an antonymous pair of adverbs meaning roughly ‘here and there’ and that can be schematized as: [X Adv<sub>1</sub> X Adv<sub>2</sub>], where Adv<sub>1</sub> and Adv<sub>2</sub> are antonymous spatial adverbs like *di qua* ‘here’ – *di là* ‘there’.<sup>12</sup> This construction, which has been

<sup>12</sup> Several different adverbial pairs can participate in this construction, namely: *a destra – a manca/sinistra* ‘to the right – to the left’, *di qui – di là/lì* ‘this way – that way’, *di sotto – di sopra* ‘down(wards)/downstairs – up(wards)/upstairs’, *di su – di giù* ‘from above – from below’, *qua – là* ‘here – there’, *qui – lì* ‘here – there’, *su – giù* ‘up(wards) – down(wards)’. However, *di qua – di là* ‘here – there’ is by far the most common (almost 45% of all cases in Masini and Mattioli’s 2022 dataset).

extensively described by Masini and Mattiola (2022), displays quite a lot of variability since it can host different reduplicated bases in terms of both lexical category (compare the verb in 66a with the noun in 66b) and complexity: compare again the data in (66), which show the reduplication of a single word (66a), a phrase (66b), and a clause (66c).

- (66) a. *I segni erano spariti e, **cerca di qua, cerca di là**, nessuno ha avuto il coraggio di continuare senza.*  
 ‘The signs had disappeared and, after searching in all directions (lit. **search here, search there**), no one had the courage to continue without them.’
- b. *Perché siamo partiti con la testa piena della propaganda fascista, i russi mangiano i bambini, **i russi qua, i russi là** e invece abbiamo trovato una popolazione di una dignità assoluta veramente.*  
 ‘Because we left with our heads full of fascist propaganda, Russians eat children, Russians do this, Russians do that (lit. **the Russians here, the Russians there**) and instead we found a people with an outright dignity, really’
- c. *Ancora un’entrata mancata: **chi russa di qua chi russa di là**, tutti dormono come ghiri e nessuno ha visto.*  
 ‘Another missed entrance: people snoring here, people snoring there (lit. **who snores here, who snores there**), everybody is sleeping like a log and nobody saw it (the sun)’

From a functional point of view, Masini and Mattiola (2022) identify four specific functions for the [X Adv<sub>1</sub> X Adv<sub>2</sub>] in Italian, all closely related to a ‘plurality/variety’ macrofunction, namely: distributivity (67), related variety (68), dispersion (69), and – to a much minor extent (one example only) – additive (standard) plurality (70).

- (67) *Come si difende il corpo? Pensando come fanno gli altri, **idiozie di qua, idiozie di là**?*  
 ‘How does the body protect itself? Thinking, like the others do, stupid things all the way down (lit. **stupid things here, stupid things there**)?’
- (68) *Ora poi facciamo attenzione che ogni iniziativa ha e avrà un aggettivo imprescindibile: “Europeo”. Giornata Europea contro la sclerosi multipla, Giornata Europea contro la leucemia, giornata europea contro il fumo, sciopero europeo, **giornata europea di qua, giornata europea di là**.*

‘And consider that now each event has and will have an inevitable adjective: “European”. European Day against multiple sclerosis, European Day against leukemia, European Day against smoking, European strike, all possible sorts of European Days (lit. **European Day here, European Day there**)’

- (69) *fino alla mezza stavo benissimo, poi ho iniziato a sentire un po' di stanchezza, un doloretto qua, un doloretto là. Alla fine mi sono dovuto fermare.*  
 ‘Until half [of the marathon] I was feeling great, then I started feeling some tiredness, **a little pain here, a little pain there**. Eventually, I had to stop.’
- (70) *Sì, però quando dovrai rinnovare il permesso di soggiorno loro ti chiedono CUD<sup>13</sup> di qua CUD di là [...]*  
 ‘Yes, but when you’ll need to renew your residence permit they’ll ask you all your CUDs (lit. **CUD here CUD there**) [...]

Table 1 summarizes the results of this section by listing the DR constructions we could identify for the Italian language. Obviously, as already noted, these are only partial results based on a preliminary analysis of the data. Furthermore, we are not in a position to give details about either the precise function or the productivity of each construction, which would require a dedicated study.

In conclusion, what this cursory investigation reveals is that our typological findings seem to hold also at the language-specific level: all major lexical categories are involved in DR in Italian, although nouns seem to be the most active word class in this case; also, most of the intervening elements attested in Italian DR patterns also figure in our cross-linguistic investigation, viz. prepositions, conjunctions, negation markers. But more importantly, what emerges is that DR patterns are under-recognized and under-described even in very well-documented languages like Italian. If we rely on the descriptive grammar used for our investigation (which, by the way, is an extremely rich and informed resource), we must conclude that Italian lacks DR. But if we resort to naturally occurring data from corpora (combined with native speakers’ intuition and judgements), we can detect previously unnoticed data: far from being absent, DR is attested in Italian by a wide range of possible formal strategies.

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**13** In Italy, CUD is a bureaucratic document certifying the annual income of an employee required for declaration tax process.



**Table 1:** Italian DR patterns retrieved from corpora: a summary.

Construction Schema	Nature of the base	Nature of the interposing element	Function(s)
N Prep N	Noun	Preposition	Polyfunctional (e.g., distributivity, greater plurality, idiosyncratic)
Prep N Prep N	Noun	Preposition	Distributivity
N Prep.Art N	Noun	Preposition with article	Idiosyncratic
N Conj N	Noun	Conjunction ('and')	Greater plurality
N Neg N	Noun	Negative marker	Approximation
V Conj V	Verb	Conjunction ('and')	Continuativity
V <i>come</i> V	Verb	Adverb/comparative marker	Idiosyncratic
V Neg V	Verb	Negative marker	Idiosyncratic
Adj Conj Adj	Adjective	Preposition	Intensification
Adv Prep Adv	Adverb	Preposition	Polyfunctional
Prep Adv Prep Adv	Adverb	Preposition	Idiosyncratic
Adv Conj Adv	Adverb	Conjunction ('and', 'but', 'that/than')	Intensification
Adv <i>come</i> Adv	Adverb	Adverb/comparative marker	Idiosyncratic
Num N Num	Numeral	Noun	Precision + Evaluation
X <i>dì qua</i> X <i>dì là</i>	Various	Antonymic adverbs ('here...there')	Polyfunctional (distributivity, dispersion, related variety, additive plurality)

Now, often typological investigations are based solely on the analysis of grammatical descriptions, and sometimes this is the only option available. However, in principle, typology should also be grounded in corpus-based analyses, like is being done with most language-specific studies nowadays, given the growing availability of corpora. This would have the advantage of unveiling a much broader linguistic variety and, thus, making typology much more empirically solid. Needless to say, a 'discourse(-sensitive) typology' is very difficult to implement and is simply not viable at present for a very high number of languages, for which we are still lacking corpora (especially of spoken language, where innovation works at its best). However, some current projects – like Multi-CAST (cf. Haig and Schnell 2016) or DoReCo (cf. <http://doreco.info/>) – are going exactly in this direction. We believe this is precisely the path typology should follow in the next future in order to continue pursuing its basic purpose of unveiling and explaining linguistic diversity.

## 8 Final remarks

In this paper, we offered what we believe to be the first typology of discontinuous reduplication in the world's languages. After defining and delimiting our object of analysis, we presented the main formal and functional properties of DR patterns which emerged from the investigation of the languages in our sample.

We first provided a description of the main formal properties of DR. What emerged is that several different items can function as interposing element: from adpositions to stative markers, from linkers to exclusive particles. All major lexical categories can undergo DR (e.g., nouns, verbs, adjectives, adverbs), but also some minor categories (e.g., numerals, quantifiers, adpositions). From a functional point of view, DR can express a range of functions that are typically associated also with contiguous reduplication (e.g., distributivity, intensification, habituality, pluractionality, etc.).

We then drew some typological generalizations from our data. Unexpectedly, the nature of the interposing element does not seem to play a clear role in the functional interpretation of the overall pattern, which conversely seems to stem more from the nature of the base (e.g., discontinuously reduplicated verbs basically express the same functions expressed by contiguously reduplicated verbs).

The most interesting, but in some way expected, result is that we identified an implication between contiguous and discontinuous reduplication: a language which displays DR patterns will also have some other kind of contiguous reduplicative pattern.

Finally, we took a closer look at DR patterns in Italian. This language-specific investigation generally confirmed our cross-linguistic findings, but also revealed that corpus-based analyses can reveal several additional DR patterns that simply cannot be detected in large-scale cross-linguistic studies, at least for the time being. A conclusion that can be drawn is that, ideally, we need more detailed studies on single languages, not just for DR but for typological investigation in general.

Obviously, we make no claim of completeness. Rather, this work was conceived as a starting point for a wider exploration, which should ideally use a more comprehensive language sample and extend the investigation to corpora of naturally occurring language data. This would possibly allow: (i) to confirm (or not) that it is the lexical category (and not the intervening element) that plays the major role in determining the function of the pattern (and why); (ii) to confirm (or not) the proposed CONTIGUOUS REDUPLICATION > DISCONTINUOUS REDUPLICATION hierarchy and to inquire into its possible explanations, including the diachronic connection between the two.

## Abbreviations<sup>14</sup>

1, 2, 3	1st, 2nd, 3rd person
3>3	verbal grammatical third to third person ‘she>him’
-	morpheme boundary
~	reduplicative boundary
<...>	infix
??	no glosses identified
A	subject of transitive
ABS	absolute
ACC	accusative
AD2	aspect directional 2
ADJ	adjectivizer
ADV	adverb
ALL/EACH_DAY	all/each day
ART	article
ATTR	attributive
AUX	auxiliary
CAUS	causative
CL(1/2/9)	noun class/class gender 1/2/9
COM	comitative
COMP	comparative
COMPL	complementizer
CONJ	conjunction
COP	copula
DAT	dative
DEC	declarative (mood clitic)
DEF	definite
DEM	demonstrative
DEM.MED	medial demonstrative
DEM.PROX	proximate demonstrative
DIM	diminutive
DO&GO	associated motion clitic
DR	discontinuous reduplication
DS	different subject
EM	emphatic
ENC	enclitic
EP	epenthetic
ERG	ergative
EXC.PART	exclusive particle
FUT	future
GEN	genitive
GEN.EVT	generic event

**14** All the examples display their original glosses because they refer to language-specific phenomena; however, we decided to adapt some of the abbreviations for consistency (e.g., RDP > RED).

IDPH	ideophone
IMP	imperative
INC	incomplete aspect
IND	indicative
INST	instrumental
INTENS	intensifier
INTER	interrogative
IPFV	imperfective
LIG	ligature element
LNK	linker
LOC	locative
M	masculine
N	noun
NEG	negative
NMLZ:P	past tense nominalizer
NOM	nominative
NPP	non-past progressive
NPST	non-past
NUM	numeral
OBL	oblique
P	object of monotransitive predicate
PC	past completive
PFV	perfective
PL	plural
PL(GRP)	plural in group
PREP	preposition
PRET	preterit
PROG	progressive
PROX	proximal
PRS	present
PT	potent case inflection
PURP	purposive
RECP	reciprocal
RED	reduplication
REL	relative
REP	reportative
RFL	reflexive
RM.PST	remote past
S	intransitive subject
SBJ	subject
SBJV	subjunctive
SG	singular
SIM	simultaneous subordinate
SS	sentence suffix
SSUB	subordinate temporal tense
STV	stative
TOP	topic
TR	transitive
UQ	unified quantity

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## Appendix A: Language sample.<sup>15</sup>

Language	Family	Sub-family
Kabardian	Abkhaz-Adyge	Circassian
Tamashek	Afro-Asiatic	Berber
Moloko	Afro-Asiatic	Chadic
Pero	Afro-Asiatic	Chadic
Daasanach	Afro-Asiatic	Cushitic
Juba Arabic	Afro-Asiatic	Semitic
Tigre	Afro-Asiatic	Semitic
Cheyenne	Algic	Algonquian
Garifuna	Arawakan	Maipuran
Slave	Athabaskan-Eyak-Tlingit	Athabaskan-Eyak
Mani	Atlantic-Congo	Mel
Kulango	Atlantic-Congo	Volta-Congo
Cuwabo	Atlantic-Congo	Volta-Congo
Emai	Atlantic-Congo	Volta-Congo
Ewe	Atlantic-Congo	Volta-Congo
Mungbam	Atlantic-Congo	Volta-Congo
Kisi	Atlantic-Congo	Volta-Congo
Obolo	Atlantic-Congo	Volta-Congo
Yoruba	Atlantic-Congo	Volta-Congo
Stieng	Austroasiatic	Bahnaric
Pacoh	Austroasiatic	Katuic
Khasi	Austroasiatic	Khasi-Palaung
Pnar	Austroasiatic	Khasi-Palaung

<sup>15</sup> Language classification follows Glottolog (Hammarström et al. 2020), while language name follow the bibliographic reference.

(continued)

Language	Family	Sub-family
Car Nicobarese	Austroasiatic	Nicobaric
Ilocano	Austronesian	Malayo-Polynesian
Marshallese	Austronesian	Malayo-Polynesian
Nakanai	Austronesian	Malayo-Polynesian
Papapana	Austronesian	Malayo-Polynesian
Siar	Austronesian	Malayo-Polynesian
Southern Cook Island Maori	Austronesian	Malayo-Polynesian
Standard Malay	Austronesian	Malayo-Polynesian
Tawala	Austronesian	Malayo-Polynesian
Ulithian	Austronesian	Malayo-Polynesian
Unua	Austronesian	Malayo-Polynesian
Ambel	Austronesian	Malayo-Polynesian
Rukai	Austronesian	Rukai
Jaqaru	Aymaran	Tupe
Mali	Baining	//
Ma'di	Central Sudanic	Moru-Madi
Paya Kuna	Chibchan	Core Chibchan
Wampis	Chicham	Shuaric
Kui	Dravidian	South Dravidian
Tamil	Dravidian	South Dravidian
Telugu	Dravidian	South Dravidian
West Greenlandic	Eskimo-Aleut	Eskimo
Pilagá	Guaicuruan	Guaicuru del Sur
White Hmong	Hmong-Mien	Hmongic
Danish	Indo-European	Germanic
Modern Greek	Indo-European	Graeco-Phrygian
Balochi	Indo-European	Indo-Iranian
Hindi	Indo-European	Indo-Iranian
Maithili	Indo-European	Indo-Iranian
Majhi	Indo-European	Indo-Iranian
Punjabi	Indo-European	Indo-Iranian
Italian	Indo-European	Italic
Basque	Isolate	//
Karok	Isolate	//
Zuni	Isolate	//
Maung	Iwaidjan Proper	//
Krongo	Kadugli-Krongo	Central-Western Kadugli-Krongo
Uduk	Koman	Central Koman
!Xun	Kxa	Ju-Kung
Konkow	Maiduan	//
Mano	Mande	Eastern Mande
Mara	Mangarrayi-Maran	Maran

(continued)

Language	Family	Sub-family
Tzeltal	Mayan	Core Mayan
Bao'an Tu	Mongolic-Khitán	Mongolic
Luo	Nilotic	Western Nilotic
Nimboran	Nimboranic	//
Nungon	Nuclear Trans New Guinea	Finisterre-Huon
Hua	Nuclear Trans New Guinea	Kainantu-Goroka
Kesawai	Nuclear Trans New Guinea	Madang
Coatlán-Loxicha Zapotec	Otomanguean	Eastern Otomanguean
Mparntwe Arrente	Pama-Nyungan	Arandic-Thura-Yura
Wangkajunga	Pama-Nyungan	Desert Nyungic
Ngiyambaa	Pama-Nyungan	Southeastern Pama-Nyungan
Kuku-Yalanji	Pama-Nyungan	Yimidhirr-Yalanji-Yidinic
Chácobo	Pano-Tacanan	Panoan
Huallaga Huánuco Quechua	Quechuan	Quechua I
Kanuri	Saharan	Western Saharan
Musqueam	Salishan	Central Salish
Alamblak	Sepik	Sepik Hill
Mehek	Sepik	Sepik Tama
Bunan	Sino-Tibetan	Bodic
Tshobdun	Sino-Tibetan	Burmo-Qiangic
Zaiwa	Sino-Tibetan	Burmo-Qiangic
Thangmi	Sino-Tibetan	Himalayish
Hills Karbi	Sino-Tibetan	Kuki-Chin-Naga
Mongsen Ao	Sino-Tibetan	Kuki-Chin-Naga
Mandarin Chinese	Sino-Tibetan	SInitic
Hidatsa	Siouan	Core Siouan
Lao	Tai-Kadai	Kam-Tai
Kotiria	Tucanoan	Eastern Tucanoan
Kukama-Kukamiria	Tupian	Maweti-Guarani
Turkmen	Turkic	Common Turkic
Nganasan	Uralic	Samoyedic
Uru	Uru-Chipaya	//
Southeastern Tepehuan	Uto-Aztecan	Southern Uto-Aztecan
Worrorra	Worrوران	Western Worrوران

## Appendix B: DR types in the languages of our sample

Language	Red or Rep	Function	Interposed element	Base	Other Red	Source
Alamblak	Reduplication	Intensification	Linker (and)	Adjective	Yes	Bruce (1984: 165)
Alamblak	Reduplication	Continuativity	Linker (and)	Verb	Yes	Bruce (1984: 328)
Balochi	Reduplication	Intensification	Linker (and)	Adjective	Yes	Axenov (2006: 88)
Chácobo	Repetition	Continuativity	Linker (and)	Verb	Yes	Tallman (2018: 511)
Chácobo	Repetition	Pluractionality	Linker (and)	Verb	Yes	Tallman (2018: 516)
Chácobo	Reduplication	Continuativity	Epenthetic	Verb	Yes	Tallman (2018: 865)
Chácobo	Reduplication	Pluractionality	Epenthetic	Verb	Yes	Tallman (2018: 877)
Chácobo	Reduplication	Inchoativity	Epenthetic	Verb	Yes	Tallman (2018: 880)
Chácobo	Reduplication	Continuativity	Epenthetic	Verb	Yes	Tallman (2018: 890)
Chinese Mandarin	Reduplication	Delimitation/diminution	Numeral 'one'	Verb	Yes	Li and Thompson (1981: 236)
Mparntwe Arrente	Reduplication	Intensification	Case marker	Adverb	Yes	Wilkins (1989: 182–183)
Mparntwe Arrente	Reduplication	Reciprocity	Case marker	Adverb	Yes	Wilkins (1989: 322)
Mparntwe Arrente	Reduplication	Distributivity	Quantifier	Adjective	Yes	Wilkins (1989: 345)
Mparntwe Arrente	Reduplication	Distributivity	Quantifier	Numeral	Yes	Wilkins (1989: 345)
Mparntwe Arrente	Reduplication	Distributivity	Case marker	Numeral	Yes	Wilkins (1989: 348–349)
Mparntwe Arrente	Reduplication	Distributivity	Case marker	Adjective	Yes	Wilkins (1989: 348)
Ewe	Repetition	Universal quantification	Quantifier	Noun	Yes	Ameka (1991: 60)
Ewe	Repetition	Approximating	Adposition	Noun	Yes	Ameka (1991: 61)
Hindi	Repetition	Distributivity	Adposition	Noun	Yes	Kachru (2006: 101)
Hindi	Repetition	Intensification	Adposition	Adverb	Yes	Kachru (2006: 278)/ Abbi (1992: 27)
Huallaga Huánuco Quechua	Repetition	Distributivity	Linker (and)	Noun	Yes	Weber (1989: 320)



(continued)

Language	Red or Rep	Function	Interposed element	Base	Other Red	Source
Ilocano	Repetition	Category-changing	Linker (and)	Verb	Yes	Rubino (1997: 150)
Jaqaru	Reduplication	Category-changing	Linker (and)	Adjective	Yes	Hardman (2000: 54)
Jaqaru	Reduplication	Category-changing	Unknown	Verb	Yes	Hardman (2000: 54)
Jaqaru	Reduplication	Intensification	Linker (and)	Adjective	Yes	Hardman (2000: 54)
Jaqaru	Reduplication	Pluractionality	Unknown	Verb	Yes	Hardman (2000: 54)
Khasi	Repetition	Category-changing	Unknown	Verb	Yes	Abbi (1992: 27)
Khasi	Reduplication	Pluractionality	Unknown	Verb	Yes	Nagaraja (1985: 27)
Kisi	Reduplication	universal quantification	Unknown	Noun	Yes	Childs (1995: 192)
Kuku-Yalanji	Reduplication	Pluractionality	Linker (and)	Verb	Yes	Patz (2002: 172)
Kuku-Yalanji	Reduplication	Continuativity	Linker (and)	Verb	Yes	Patz (2002: 62)
Maithili	Repetition	Distributivity	Unknown	Noun	Yes	Asad (2015: 50)
Maithili	Repetition	Greater plurality	Unknown	Noun	Yes	Asad (2015: 50)
Maithili	Repetition	Identificational focus	Unknown	Noun	Yes	Asad (2015: 50)
Maithili	Repetition	Indefiniteness	Negative element	Unknown	Yes	Asad (2015: 50)
Maithili	Repetition	Intensification	Adposition	Adjective	Yes	Asad (2015: 50)
Maithili	Repetition	Intensification	Negative element	Adverb	Yes	Asad (2015: 50)
Maithili	Repetition	Intensification	Adposition	Adverb	Yes	Asad (2015: 50)
Maithili	Repetition	Greater plurality	Case marker	Noun	Yes	Yadav (1996: 92)
Majhi	Repetition	Identificational focus	Emphatic marker	Noun	Yes	Dhakal (2014: 21)
Majhi	Repetition	Plurality	Emphatic marker	Noun	Yes	Dhakal (2014: 21)
Majhi	Repetition	Intensification	Adposition	Adjective	Yes	Dhakal (2014: 55)
Mongsen Ao	Reduplication	Intensification	Intensive marker	Verb	Yes	Coupe (2007: 366)
Mungbam	Repetition	Pluractionality	Unknown	Verb	Yes	Lovegren (2013: 197)
Obolo	Reduplication	Distributivity	Linker (and)	Numeral	Yes	Rowland Oke (2003: 164)
Pacoh	Reduplication	Generality	Unknown	Verb	Yes	Alves (2006: 37)

(continued)

Language	Red or Rep	Function	Interposed element	Base	Other	
					Red	Source
Punjabi	Repetition	Intensification	Unknown	Adverb	Yes	Abbi (1992: 27)
Punjabi	Repetition	Intensification	Adposition	Adjective	Yes	Bhatia (1993: 143)
Punjabi	Repetition	Precision	Case marker	Adposition	Yes	Bhatia (1993: 205)
Punjabi	Repetition	Indefiniteness	Negative element	Numeral	Yes	Bhatia (1993: 220)
Punjabi	Repetition	Indefiniteness	Negative element	Quantifier	Yes	Bhatia (1993: 220)
Punjabi	Repetition	Indefiniteness	Negative element	Adverb	Yes	Bhatia (1993: 92)
Punjabi	Repetition	Precision	Exclusive particle	Adposition	Yes	Bhatia (1993: 98)
Standard Malay	Reduplication	Continuativity	Reciprocal	Verb	Yes	Hudson (1995: 96)
Standard Malay	Reduplication	Habituality	Reciprocal	Verb	Yes	Hudson (1995: 96)
Standard Malay	Reduplication	Reciprocity	Reciprocal	Verb	Yes	Hudson (1995: 96)
Standard Malay	Reduplication	Reciprocity	Reciprocal	Adverb	Yes	Hudson (1995: 98)
Tshobdun	Reduplication	Universal quantification	Unknown	Noun	Yes	Sun (2014: 634)
Uduk	Repetition	Intensification	Adposition	Quantifier	Yes	Killian (2015: 133)
Uduk	Repetition	Predicative	Stative marker	Adjective	Yes	Killian (2015: 212)
Yoruba	Reduplication	Universal quantification	Quantifier	Noun	Yes	Bamgboṣe (1966: 153)

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