Reduplication and the Arbitrariness of the Sign

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Abstract

The meanings expressed by reduplication, or linguistic doubling, are similar across a wide array of languages. Interestingly, some of these shared meanings do not concern doubling, repetition, or plurality. This non-arbitrariness of the sign may be attributable to the interplay of two forces: iconicity, and conceptually-based semantic extension. Cross-linguistic evidence supporting this account is presented. More generally, this paper argues that the interaction of iconicity and semantic extension constitutes a potentially powerful source of non-arbitrariness in the mapping between sound and meaning.

Introduction

While the relationship between sound and meaning in language is largely arbitrary (de Saussure, 1966), there are exceptions to this general rule. One of these can be found in reduplication, or linguistic doubling. While this form expresses an array of meanings cross-linguistically, there is a core set of meanings which recur so frequently and in so many languages as to demand explanation.

Consider for example the English words *dum-dum, claptrap, nitwit,* and *riffraff.* These words have two things in common: a reduplicative form, and an element of contempt in the meaning. One can also cite examples such as *arbitrary-shmarbitrary*, based on a productive borrowing from Yiddish. Moving further linguistically afield we find Uzbek *ikir-chikir* (petty, trivial, idle) and Farsi *chart-o-part* (irrelevant talk, nonsense), among many others. This phenomenon is intriguing because the connection between contempt and doubling is not an obvious one.

Other senses that recur cross-linguistically include small, scatter, lack of control, plurality, intensity, affection, baby, continuity, and completion (Moravcsik, 1978; Niepokuj, 1991; Regier, 1994). There is no simple abstraction over the set of meanings expressed by reduplication. But the set of meanings is not boundless either, and in fact covers only a relatively small region of semantic space (Moravcsik, 1978). Interestingly, the same fairly specific meaning is often expressed by reduplication in unrelated languages. It is exceedingly unlikely that this would occur either by chance, or through widespread borrowing. What is happening, then? And what are the ramifications for the doctrine of the arbitrariness of the sign?

Iconicity and Semantic Extension

This paper suggests that the observed regularities may result from the interplay of two forces. One force is iconicity or sound symbolism – a "direct linkage between sound and meaning" (Hinton et al., 1994). For example, many languages use reduplication in baby talk, that register of the language used when addressing small children (Ferguson, 1964; Haynes and Cooper, 1986). Since babies themselves reduplicate extensively in learning to speak (Fee and Ingram, 1982; Ferguson, 1983; Schwartz et al., 1980), it is understandable why doubling and babies would come to be associated, and this association reflected in a variety of unrelated languages. Similarly, the widespread use of reduplication to express repetition and plurality is self-explanatory. But what about other widely attested meanings, such as contempt? In such cases, there is no clear mirror of the meaning in the doubled form.

This is where the second force comes into play, building on the first. Meaning may spread, either synchronically or over the history of a language. Once reduplication marks one meaning in a language, it may come to also mark others that are closely conceptually related. And this process of semantic extension may then repeat itself, chaining out to yet other meanings (Bybee et al., 1994; Heine et al., 1991; Lakoff, 1987; Sweetser, 1990). For example, the iconically grounded notion of baby is clearly related to the notion small. Thus, we might expect to find reduplication expressing small in some languages – and we do. In its turn, small is conceptually close to contempt, as small things tend to be dismissible *(small fry, peanuts).* Thus, reduplication may mark contempt in some languages because of a trail of semantic extension from the iconically grounded sense of baby, through small, to contempt. Categories formed of senses chained together in this fashion have been termed 'radial categories' (Lakoff, 1987).
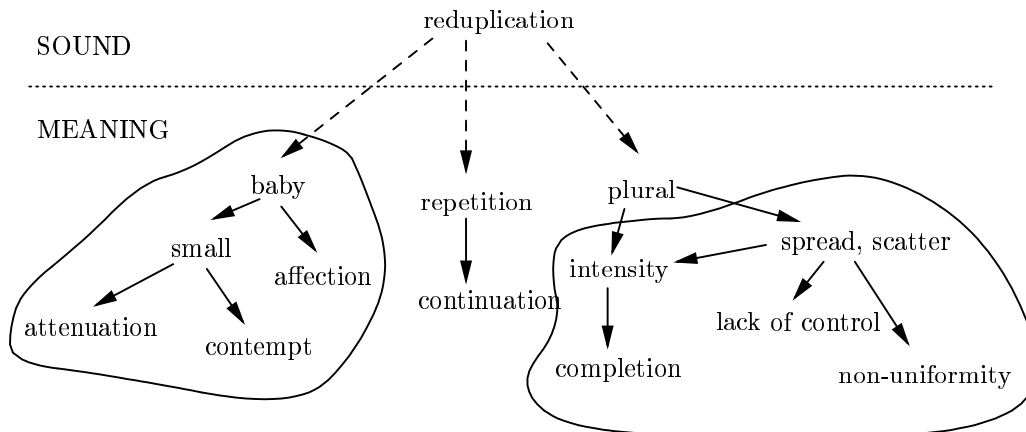
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Figure 1: The interaction of iconicity and semantic extension

Figure 1 illustrates the central theoretical claim being advanced here: that the interaction of these two forces can account for what might otherwise be a puzzling set of cross-linguistic regularities in the semantics of reduplication. We begin by noting that dissimilar senses can be iconically grounded in the same form. In this case, baby, repetition, and plurality are all taken to be sound-symbolically related to the form itself – this is shown by the dashed lines crossing the sound-meaning divide. Motivation has already been given for baby, and the other two do not require much. Each of these three senses then serves as the root node for a tree of related concepts. Links between senses are initially posited on the basis of apparent conceptual relatedness, and motivation is then sought for each of the connections. The senses listed in the graph are the primary ones attested in the literature (Bybee et al., 1994; Moravcsik, 1978; Niepokuj, 1991). The hypothesis is that they appear because of this interaction between iconic and conceptual structure.

How can this hypothesis be tested? It makes two related predictions, both stemming from the assumption that much of the observed regularity is conceptually rather than iconically mediated. The first prediction is that we should expect to find each of the displayed inter-concept links implicated in the semantic extension of other linguistic forms. For example, in the expressions *small fry* and *peanuts* we have already seen that terms for small things sometimes assume a contemptuous or dismissive meaning. This observation supports the small to contempt conceptual link in Figure 1, since it is a linguistic manifestation of that link that has nothing whatever to do with reduplication *per se*. Such evidence strongly suggests that the connection is both real, and genuinely conceptual. It will be the burden of this paper to demonstrate that some such non-reduplicative motivation can be adduced for many of the individual links shown here, such that this first prediction is largely met. This prediction will be referred to as the *local* prediction, since it concerns individual links on a one-by-one basis.

The second, or *global*, prediction is that we may expect to find a non-reduplicative linguistic form that expresses an entire subtree of the senses in this graph. Why should this be expected? Because if conceptually-mediated semantic extension produces a chain from baby all the way out to the apparently unrelated notion of contempt in the case of reduplication, this same conceptual chain should be available to other linguistic forms. Thus, one might expect to find, for example, a form associated with all senses in the circled subtree on the left, or in the circled subtree on the right. This global prediction is met as well, as we shall see. This paper will argue that the entire subtree of senses rooted at baby is shared with the *diminutive* (Jurafsky, 1996): cross-linguistically, diminutives express a range of senses other than just small, including each of the senses in the baby subtree. This systematic semantic overlap strongly suggests that these senses cohere for conceptual reasons, rather than reasons related to linguistic form. A similar argument will be advanced concerning the other circled subtree, rooted at spread, scatter. Each of the senses in this subtree is expressed by the Russian verbal prefix *raz-* (Regier, 1994). Again, this semantic sharing of an entire cluster of senses with a linguistic form that is not itself doubled suggests a conceptual basis for the particular set of senses observed. It is significant for this argument that while the diminutive and *raz-* each express a range of senses, that range is fairly limited in both cases (Jurafsky, 1996; Regier, 1994). Thus, the sharing of specific sets of senses cannot be attributed simply to extreme broadness of coverage of either the diminutive, or *raz-*.

The central ramification of this account is simple. If there is indeed such a conceptual rippling-out to senses that are not themselves iconically grounded, this can generate a greater degree of non-arbitrariness in the mapping between sound and meaning than we would otherwise expect. Reduplication serves only as an instance of this more general point. The same principle could also operate elsewhere in language.

This paper takes the following form. It considers each of the senses in Figure 1 in turn, and provides linguistic evidence for the local and global predictions with respect to the current sense. This supports the overall view that iconicity and semantic extension may both contribute to the observed regularities in the mapping from reduplicative form to meaning. Finally, the data are discussed as they bear on the question of the arbitrariness of the sign.

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The Senses of Reduplication

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Each of the senses listed above is treated in turn. Each entry is subdivided into three parts. First, evidence is given exemplifying the cross-linguistic use of reduplication to express the sense in question. Sometimes, this data will indicate that reduplication expresses a particular sense in the *grammar* of some language. However, coverage is also deliberately broadened to include non-productive uses in the lexicon, such as *nitwit, knick-knack,* and the like. Many of these express the same senses as those expressed by more properly grammatical reduplication. The second part of the entry lists non-reduplicative evidence for any links that may tie this sense to its predecessors in the semantic network – in support of the local prediction. Finally, the third part lists evidence for any overlap this sense may exhibit with the diminutive, or with *raz-*, in support of the global prediction.

Baby

Reduplication: English *baby*, French *bébé*, and Tamil *papa* (baby). In addition to these lexical examples, many languages use reduplication productively to mark baby register, that register used when addressing babies (Ferguson, 1964; Haynes and Cooper, 1986). This is exemplified by the English forms *Georgie-Porgie*, *doggy-woggy*, and *there there*. **Links:** The iconic grounding of this sense has already been motivated. **Overlap:** Baby is also a central sense of the diminutive cross-linguistically, along with the very closely related notions child and young. We can see this in examples such as Ojibwa *kwezens* (girl; *kwe* - woman), Tibetan *dom-bu* (bear-cub; *dom* - bear), and Nez Perce *'iceyé.ye-qen* (young coyote; *'iceyé.ye* - coyote).

Affection

Reduplication: Arabic *Ramrūm* (the affectionate form of the name *Rīma*), English *honey-bunny* and *bye-bye* (a more intimate version of *bye*). Moravcsik (1978) also notes that this sense appears cross-linguistically. **Links:** The link from baby to affection is a pragmatically natural one. Evidence for this link comes from the use of the term *baby* itself as an endearment in English. **Overlap:** The diminutive is also very commonly used to mark affection. Examples include Russian *belochka* (dear little squirrel), Afrikaans *oorgrootjies* (dear great-grandparents), and English *Terry* (the affectionate form of the name *Terrance*).

Small

Reduplication: Agta *walawer* (small creek; *wer* - creek), Comox *djidjidis* (little tooth; *djidis* - tooth), and English *tidbit* and *itty-bitty*. **Links:** The link from baby to small is motivated by the perceptually very salient fact that babies are small, and may well be the most conceptually salient class of small things. The use of linguistic forms meaning baby to also mean small is illustrated in such English sentences as *Look, a baby airplane*, meaning a small airplane. **Overlap:** The notion small is also a central sense of the diminutive, and appears widely across languages, such as Ewe *kpé-ví* (small stone; *kpé* - stone), and Hungarian *felhöcske* (small cloud; *felhö* - cloud).

Attenuation

Reduplication: Swahili *maji-maji* (somewhat wet; *maji* - wet), Thai *kàw-kàw* (oldish; *kàw* - old), Tagalog *mahiyahiya* (be a little ashamed; *mahiya* - ashamed) (Moravcsik, 1978). **Links:** The link from small to attenuation is exemplified

in non-reduplicative expressions such as *It's a little cold today*, in which the word *little*, which means <u>small</u>, is used to attenuate the force of the utterance. **Overlap:** The diminutive is widely used to express attenuation, for example Hungarian *nagyocska* (fairly large; *nagy* - large) and Greek *ksinutsikos* (sourish; *ksinos* - sour).

Contempt

Reduplication: Bengali *bhethor-shethor* (in, but that is insignificant; *bhethor* - in), Dutch *mik-mak* (worthless collection), English *claptrap, hillbilly*, German *Pille-palle* (insignificant things), and Yiddish *layfen-shmayfen* (running is beside the point; *layfen* - to run). **Links:** We have already seen motivation for the link from <u>small</u> to <u>contempt</u> in the English expressions *small fry* and *peanuts*. **Overlap:** As one might expect, given the existence of such a link, the diminutive is also often used to express contempt. Consider for example Latin *Graeculus* (miserable Greek), and English *limey* (a derogatory term for an Englishman, considered a diminutive by analogy with *doggy*, *Jimmy*, and the like).

This concludes the set of senses that overlap with senses of the diminutive. Diminutive data listed here was obtained from a recent cross-linguistic treatment of the semantics of the diminutive (Jurafsky, 1996). In this work, we find 16 separate senses of the diminutive that are commonly found in the languages of the world. The fact that only 16 senses were identified suggests that the diminutive is relatively restricted in the range of meanings it may assume. This grants the five-sense overlap with reduplication that we see here its significance, for it means that the overlap cannot be attributed to broad semantic coverage on the part of the diminutive. This in turn suggests that the overlap may result from a network of shared conceptual links.

Repetition

Reduplication: English *boogie-woogie*, Mongolian *bayn bayn* (often, constantly), Sundanese *guguyon* (to jest repeatedly; *guyon* - to jest), and Tzeltal *-pikpik* (to touch it lightly repeatedly; *-pik* - to touch it lightly). **Links:** This sense is taken to be sound-symbolically grounded directly in the doubled form – the repetition of the stem in the doubled form maps easily onto the meaning of repetition. **Overlap:** This sense is not a part of a systematic semantic overlap with any other linguistic form currently under study.

Continuity

Reduplication: The use of reduplication to express <u>continuity</u> has been noticed by many researchers. Reduplication expresses continuative aspect in Tagalog (French, 1988) and Javanese (Niepokuj, 1991). In addition, the continuative sense of reduplication is evident in Hindi *kit kit* (monotonous droning on) and arguably English *dilly-dally*. **Links:** The use of reduplication in the sense of continuity is easily motivated from <u>repetition</u>. Lakoff (1987) has noted that multiplicities are often spoken of as masses, as we see in the sentence *The guards were posted all over the hill*. Here, the multiple guards are implicitly viewed as a mass which covers the hill. Such examples may occur because when a multiplicity is viewed at a coarser level of resolution, it will appear to be a mass. While this sentence concerns physical mass and multiplicity, it motivates the multiplicity-to-mass transformation generally. The link from <u>repetition</u> to <u>continuity</u> is the temporal analog of this physical example: we blur the individual repetitions of an action together such that conceptually it becomes a single continued action. **Overlap:** This sense is not a part of a systematic semantic overlap with any other linguistic form currently under study.

Plurality

Reduplication: The use of reduplication to express <u>plurality</u> is widespread, appearing in Dakota, Agta (Niepokuj, 1991), Comox (Sapir, 1915), Papago, Samoan, and numerous other languages (Moravcsik, 1978). **Links:** This sense is taken to be sound-symbolically grounded directly in the doubled form – the plurality of elements in the form maps cleanly onto the meaning of plurality. **Overlap:** This sense is not a part of a systematic semantic overlap with any other linguistic form currently under study.

Spread Out, Scatter

Reduplication: A number of languages use reduplication to express the notion of <u>spread out</u> or <u>scatter</u>. Examples are Japanese *tokoro-dokoro* (scattered) and Mongolian *aravgar-saravgar* (spread out). **Links:** The link from <u>plurality</u> can be motivated by noting that the result of scattering is a plurality of objects in a plurality of locations. However, this paper does not present non-reduplicative linguistic evidence for this link. In this case, we must rely rather on the intuitive plausibility of such a connection. **Overlap:** Many Russian verbs beginning with the prefix *raz-* also have a semantics related to scattering or spreading out. Examples are *razgonjat'* (to disperse), *razmetat'* (to scatter (s.t.); to spread (s.t.) out), *raznosit'sja* (to spread), *raskidyvat'* (to scatter; spread), *rasprostranjat'* (to spread, distribute), *rasseivat'* (to disperse, scatter), *rassredotochivat'* (to disperse), and *rasstilat'* (to spread).

Intensity

Reduplication: Reduplication is very widely used to express <u>intensity</u>. Consider for example English *a whole whole lot*, *very very good*, Hindi *lal-lal* (very red; *lal* - red), and Mongolian *aray čaray* (just barely; *aray* - barely) and *öčnöön töčnöön* (a great deal). In addition to these examples, this sense appears in Dakota, Turkish, Dagur, Perak Malay, Tangale (Niepokuj, 1991), Sundanese, and Thai (Moravcsik, 1978). **Links:** There are at least two possible sources of motivation for this sense. One of these is a link from <u>plurality</u>, highlighted by the English expressions *many thanks* (Moravcsik, 1978) and *a thousand pardons*, in which quantity is used to express intensity. The other is a link from <u>spread out</u>, or the result of spreading out, namely enlargement. For example, we can see from the Russian expression *bol'shoe spasibo* (literally, big thank-you) that size can also be used to express intensity. **Overlap:** The Russian prefix *raz-* can be used to express intensity of a condition or feeling: *razbalivat'sja* (to be or become properly ill), *razobidet'sja* (to take great offense; *obidet'sja* - to be offended), *raskaljat'* (to make scorching hot), and *rasshalit'sja* (to get very playful).

Completion

Reduplication: Many languages use reduplication to express <u>completion</u> or perfectivity, particularly in the Indo-European family (Moravcsik, 1978; Niepokuj, 1991), including Sanskrit, Greek, Latin, and Gothic. **Links:** A possible motivation for the use of reduplication in this sense stems from <u>intensity</u>: performing an action intensely can lead to completion of the overall action. Thus, working on a project intensely will lead directly to completion of the project, while a more lackadaisical approach to the same project will result in its remaining in a state of incompletion for a considerable time. However, this paper does not present non-reduplicative linguistic evidence for this link. In this case, we must rely rather on the intuitive plausibility of such a connection. **Overlap:** The Russian prefix *raz-* can be used as a perfective marker: *rasserdit'sja* is the perfective form of *serdit'sja* (to become angry). In addition, a number of Russian lexical entries beginning with *raz-* express completion: *raskupat'* (to buy up), *raspivat'* (to empty a bottle drinking), *razgadyvat'* (to solve; to get to the bottom of), *razljubit'* (to stop loving), *razrjazhat'sja* (to run down, be used up), and *razygryvat'* (to bring to a conclusion).

Lack of Control

Reduplication: <u>Lack of control</u> and disorder are expressed by reduplication in a number of languages. Consider for example Danish *misk-mask* (mess, disorganized jumble), Dutch *schelle-belle* (overly independent young woman), English *helter-skelter, higgledy-piggledy, pell-mell, willy-nilly*, Farsi *gati-pati* (pell-mell), Hebrew *tohu-va-bohu* (chaos), and Russian *tjap-ljap* (anyhow, in a slipshod manner). Reduplication is also used grammatically to express lack of control in some Salish languages (Carlson and Thompson, 1982). **Links:** This sense may be motivated by noting that <u>lack of control</u> can easily cause spatial <u>scattering</u> or <u>spreading out</u>. This link is highlighted in the English word *scatterbrained*: the notion of scattering here is used to express mental lack of control or absent-mindedness. We see this link again in the colloquial American English sentence *She's a very together person*, which uses a word whose central sense is the opposite of dispersion or distension to express poise and self-control, i.e. the opposite of lack of control. **Overlap:** A number of Russian verbs beginning with the *raz-* verbal prefix have meanings that concern lack of control. Consider for example: *razbushevat'sja* (to rage, get violent, start lashing out), *razvolnovat'* (to upset (s.o.)), *razlazhivat'sja* (to go wrong), *razmechtat'sja* (to be lost in dreams), *razozlit'sja* (to get furious), *razrydat'sja* (to burst into sobs), *raskapriznichat'sja* (to become very naughty, act up), and *rasserdit'* (to annoy, to make angry).

Non-Uniformity

Reduplication: Non-uniformity is sometimes expressed by reduplication. Consider colloquial Levantine Arabic *nuṣ-nuṣ* (half and half, a mixture of the two; *nuṣ* - half), English *hodge-podge, bric-a-brac, mish-mash*, Neoaramaic *range-range* (in several different colors; *range* - color), and Tamil *ithe-athe* (this and that). **Links:** This sense may be linked to scatter, in that non-uniformity of state may be metaphorically viewed as non-uniformity of location – which is the natural result of scattering. We can see this in such colloquial expressions as *This guy's grades are all over the place,* meaning that they are not at all uniform. There is a reliance here on a very general and widespread metaphor that views abstract states as locations (Lakoff, 1987). This sense may also be iconically grounded to some extent. It is interesting to note that the sense of non-uniformity is often expressed by non-uniformity of form. Many English reduplicatives with this sense seem to exhibit variance in form between the first and second instantiations of the stem, such as *mish-mash, hodge-podge, knick-knacks, bric-a-brac, zig-zag.* This is not the case in all languages however; Arabic *nuṣ-nuṣ* and Neoaramaic *range-range* are counterexamples. **Overlap:** The Russian prefix *raz-* can be seen to also express non-uniformity in examples such as: *razdumat'* (to change one's mind), *razlichat'sja* (to differ, be distinguished), *raznit'sja* (to differ), *raznoobrazit'* (to diversify), and *raskhodit'sja* (to disagree, differ).

This concludes the subset of senses that overlap with senses of *raz-*. Earlier work had identified seven different senses of this verbal prefix: scatter, lack of control, non-uniformity, intensity, completion, split, and analysis (Regier, 1994). Of these, the first five appear to be shared with reduplication. As in the case of the diminutive, this semantic overlap suggests a conceptual basis for this subset of senses, as the senses cohere across linguistic forms.

Discussion

This paper has argued that the regularities in the semantics of reduplication stem from an interaction of iconicity and semantic extension. On this account, some senses are iconically grounded, and others derive from these through a conceptual spreading-out. This account predicts that we will be able to find non-reduplicative manifestations of each of the links in Figure 1 (the local prediction), since if the links truly exist and are conceptual in nature, they should be available, one by one, to other linguistic forms. As we have seen, such linguistic evidence has been cited for links to all but two of the senses under consideration. Thus, this local, link-based, prediction is in large measure substantiated. The account also predicts, more globally, that entire clusters of senses will be marked by the same non-reduplicative linguistic form. As we have seen, there is a subset of five senses that are shared with the diminutive, and another subset of five senses that are shared with the Russian verbal prefix *raz-*. This sharing of entire clusters of senses across linguistic forms strongly suggests a conceptual, rather than purely iconic, basis for the phenomenon.

This argument is not without its weaknesses. There are three that demand immediate treatment, and future work will be directed at them. The first weakness is that evidence from more languages is clearly required, to further determine just how widely shared the listed senses are. The current paper has relied heavily for its data on earlier published studies of reduplication. On that basis it has simply demonstrated that each sense is fairly widely shared – this is perhaps a reasonable beginning, but it is only that. The second weakness is that there are some senses that have not yet been incorporated into the network of senses. An apparently fairly widespread example is the notion game: consider English *ping-pong, pall-mall, tic-tac-toe*, Basque (and now Spanish and English) *jai-alai*, Hindi *holi-koli*, and *šeš-beš*, the name for backgammon in large regions of Turkish- and Persian-influenced southwestern Asia. One might imagine a link to the baby cluster on the basis of playfulness, or since the games tend to pit one player against another, a link to plurality. But given the current lack of either local (link-based) or global (cluster-based) support for this sense, such connections must remain speculative at this point. The third weakness is that it is possible, even probable, that some of the links in the proposed graph are incorrect. This is particularly true in light of the fact that non-reduplicative linguistic evidence could not be found for two of these links. A more satisfying approach to this issue would be to provide further independent motivation for the links, by basing the links in the graph on non-linguistic evidence, such as conceptual relatedness judgments collected from subjects.

Returning to the central claim, however, even given such possible flaws, it still seems quite probable that these regularities in the sound-meaning mapping can be attributed to an interaction between iconicity and semantic extension. For even if our cross-linguistic coverage is somewhat limited, *and* not all senses have been worked into the semantic network, *and* some of the links have been incorrectly ascertained, there remain two critical facts. First, across a range of languages, the same general form is used to express the same fairly tightly circumscribed set of meanings. Some of these meanings are clearly iconically grounded in the form itself, and interestingly, some of them appear not to be. Second, subsets of these senses are also expressed by other linguistic forms, suggesting that the

senses travel together for reasons of conceptual relatedness. Thus, we have a clear exception to the arbitrariness of the sign, and a strong suggestion that conceptually-mediated semantic extension may play a role in this exception.

Ultimately, reduplication is simply a case study; it establishes a principle. It is an instance in which iconicity and semantic extension seem to have conspired to violate de Saussure's doctrine in a less than transparent fashion. There may be other instances, iconically rooted at very different spots in semantic space. It remains to be determined to what extent such other instances exist. But the larger ramifications of this study lie precisely in the possibility of such other instances. For if these two forces, iconicity and semantic extension, can yield non-trivial regularities of the sort we have seen in the case of reduplication, they should in principle also be able to do so elsewhere in language. In this manner, they constitute a potentially powerful source of non-arbitrariness in the mapping between sound and meaning.

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