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## DO NOT REPEAT

# Repetition and reduplication in German revisited

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This chapter offers a synopsis of repetitive and reduplicative constructions in German, a set of diverse morphophonological types mostly found in substandard registers of the language. A phonological examination of these structures suggests that German strictly prohibits exact adjacent repetition of phonological material within lexical representations. I suggest this generalisation to be a grammatical requirement in the lexicon that holds across all levels of the phonological hierarchy, with only a few well-defined exceptions (abbreviations, loans, onomatopoeias, and ideophones). Reduplicative constructions are situated between the poles of marginal, sub-standard language use, apparent deviance from the concatenative ideal that otherwise pervades German morphology, and strict adherence to the lexical-phonological requirement regarding identity avoidance. In this respect, they are, as I argue, characteristic instances of extravagant morphology.

**Keywords:** reduplication, repetition, German

for Caroline

## 1. Introduction

### 1.1 Repetition in language

Language is rife with repetition. Repetition is a feature of, and in fact a necessity for, any natural language because natural languages operate with a finite and comparatively small set of discrete (sub)symbolic units (phonemes, letters, words). Crucially, the usability of all primary linguistic units presupposes at least some repetition, otherwise they could not be recognised. Repetition is also one of the most basic and simple linguistic operations, and repetitive procedures like recursion and reduplication are strong contenders for the charts of universals. At the same time, excess repetition is clearly avoided in language, as it leads to formal and semantic redundancy. The deviance from a normal degree of repetition may be used

purposefully as a poetic device (think of Gertrude Stein's famous line "Rose is a rose is a rose is a rose") or it may be a pathological symptom of disordered speech (e.g., in stuttering or stammering). These and other extreme cases of repetition, which are associated with the poetic function of language (Jakobson 1960) illustrate the general aesthetic appeal of linguistic repetition that ranges between arousing attention, leading to boredom, or causing annoyance (Görner 2015). Therefore, in order not to over-emphasise the poetic function at the cost of the referential function, normal language use has to find a balance between necessity and avoidance of repetition.

## 1.2 Extravagant repetition in German

Languages naturally vary regarding the weighting of repetition avoidance. In Standard German, judging from the sparse treatment in morphological textbooks, repetitive or reduplicative constructions clearly have a marginal status and may correspondingly be considered special or extravagant. Reduplicative words like *Mama* 'mum', *larifari* 'slipshod', *Mischmasch* 'mishmash', or *schickimicki* 'fancy-shmancy' are mostly used in substandard, colloquial registers of the language. Their main habitat is a niche of predominantly oral language use in socially close communication (or in genres that pretend social closeness, e.g., advertisements). Often, reduplication is considered a means of word formation too ill-behaved for its products to be admissible to the written norm. Furthermore, reduplicative words may express a disorderly mixed bag of secondary, expressive, affective or evaluative meanings that range from prototypicality, emphasis or normality (e.g., in the case of identical constituent compounding, see Frankowsky, this volume), to slight disdain and jocular or affectionate depreciation, and they are more generally associated with unseriousness and funniness (think of brand names for sweets like *Hubbabubba*, or nicknames like *Jojo*). The variety of meanings assigned to, and the affects correlated with, reduplicative words is mirrored in the promiscuity regarding the phonological or morphological targets of reduplication. As will be reviewed in this chapter, word-internal repetition may affect phonemes, syllables, and phonological feet, or morphological entities such as affixes (see Lensch, this volume), word stems, and even whole words. Therefore, the diversity of reduplicative forms cannot be captured by a single, comprehensive grammatical analysis.

Given the variable and hence elusive nature of reduplicative word formation in German, and the apparent deviance from the concatenative ideal that otherwise pervades German morphology,<sup>1</sup> it has been suggested that repetition and

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1. Reduplication is considered a prime example of non-concatenative morphology. In the case of inflection, morphological derivation or compounding, roots and affixes (lexical items with a more or less fixed phonological representation) are strung together. Reduplication, in contrast,

reduplication emanate from a ludic drive rather than from orderly linguistic competence. It might be for these reasons that grammarians have considered reduplication in German to be not only marginal but irregular and non-productive (e.g., Barz 2015, Schindler 1991, Wiese 1990), “pre-grammatical” (Bzdęga 1965: 22) or “extra-grammatical” (Dressler 2000).<sup>2</sup> Nevertheless, grammatical sketches and analyses of reduplication and, more generally repetition, exist (e.g., Finkbeiner 2014, Freywald 2015, Kentner 2017, Müller 2016, Wiese 1990), illustrating that the extravagance of these forms does not entail chaotic behaviour.

In what follows, I will focus on one specific aspect of reduplicative structures, namely the fact that reduplicative words or constructions, in spite of their repetitive nature, also often show avoidance of exact repetition. In fact, the avoidance of exact adjacent repetition is shown to be a feature that all words and constructions with a repetitive or reduplicative lexical representation share (safe for a few well-defined exceptions).

### 1.3 DO NOT REPEAT: A generalisation regarding reduplicative structures

Given the above-stated ubiquity and necessity of repetition in language, there must be some regulation in the system that codifies repetition avoidance. Suzuki (1998), in his cross-linguistic study on dissimilation, accredits repetition avoidance to the workings of a universal linguistic constraint (*Generalised Obligatory Contour Principle*) with different language-specific parametrisations. The Obligatory Contour Principle (OCP, see e.g., McCarthy 1986, Yip 1988 among many others) flags as marked adjacent identical elements in the phonological representation. In addition, Walter (2007) discusses two distinct general, non-linguistic functional pressures that (at least partly) account for repetition avoidance in natural language: First, close repetition of articulatory gestures is often physiologically difficult (Walter 2007: 13 et seq.), especially if gesture repetition involves timing on the scale of milliseconds. Secondly, repetition is problematic from a perceptual point of view (Walter 2007: 167 et seq.). Being exposed to regularly repeated instances of a stimulus eventually leads to habituation and consequently to blurred and suppressed perception. Specifically, experiments by Kanwisher (1987) suggest

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involves the copying of phonological material from a root or affix and adding it to the base. The phonological structures of the copied portions (the reduplicants) differ drastically depending on the item they are copied from. Therefore, they cannot have a fully specified lexical representation.

2. By contrast, in languages that make use of reduplication for more “properly grammatical” purposes (i.e., when it is not mainly associated with affective or expressive language use), reduplication is considered more amenable to grammatical formalization (see, e.g., Paschen 2018, Saba Kirchner 2010, among many others).

the individuation of repeated tokens of a signal (in her case: written words) to be hampered, a phenomenon she terms “repetition blindness”. Human language, Walter (2007) argues, has adapted to these general, language-independent pressures and therefore shows extensive repetition avoidance.

Whatever the underlying cause, within and across languages, all kinds of phenomena that may be conceived as repetition avoidance have been observed. Here, I discuss repetition avoidance in German and show that there is a surprisingly consistent ban in the lexicon of exact adjacent repetition across all levels of the phonological hierarchy (segment – syllable – foot – word – phrase). As it turns out, in order to be admitted into the lexicon, a phonological form must not contain exact adjacent repetition of phonological material on any of these levels. This is stated in the following phonotactic generalisation (1):

- (1) DO NOT REPEAT: Lexical items must not contain exact adjacent repetitions of phonological material (segments, syllables, feet, phonological words)

This generalisation bears resemblance to the abovementioned OCP. In contrast to other instantiations of the OCP, the generalisation in (1) is confined to lexical representations. It is also more restricted in that it only registers as adjacent two phonological elements that are actually realised next to each other. That is, elements that are considered adjacent on some abstract level of phonological representation but separated by other material when realised do not violate (1).<sup>3</sup> On the other hand, the scope of (1) is wider than that of other exemplars of the OCP, as it covers identical elements across the phonological hierarchy. It should be noted, though, that (1) does not necessarily have the status of an elementary grammatical constraint. Rather, the generalisation emerges as a consequence of other underlying phonotactic rules that hold on the various levels of the prosodic hierarchy. Note also that, for all levels of the phonological hierarchy, cases of exact adjacent repetition are attested in German. However, as will be shown, these cases are confined to the post-lexical realm, in line with (1), or they are situated in more or less well-defined marginal strata of the lexicon (e.g., in loan words or onomatopoeias). In general, if a repetitive form becomes lexicalised, it either needs to (i) involve phonological alternation thwarting exact identity of the repeated elements, or (ii) it will involve interspersed material separating the iterated entities from each other. The only true exceptions to (1) are a small number of loans, onomatopoeic words, ideophones, and lexicalised abbreviations (discussed in Section 3.1.1).

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3. Root-internal co-occurrence restrictions represent such a case, i.e., the avoidance of  $C_iVC_i$  roots featuring two instances of the same consonant that, on the surface, are typically separated by a vowel (Berent & Shimron 2003, Pozdniakov & Segerer 2007).

In order to validate the generalisation (1), it is necessary to briefly explicate the conception of the lexicon. The simple and rather standard view adopted here is the following: the core of the lexicon contains (a) all roots and affixes and (b) the set of word formation rules. Complex items are admitted to the lexicon if their meaning or form cannot exhaustively be derived from (a) or (b), i.e., items that involve irregular allomorphy or that are used only idiomatically. In addition to these formal criteria, there is a more indeterminate benchmark for lexicalisation, viz. the degree of conventionality: morphologically regular complex items may also become lexicalised when they are in common, frequent use. I suggest that (1) primarily holds for the core part of the lexicon which contains the elementary morphological building blocks (roots and affixes) and those complex forms that exhibit formal or semantic idiosyncrasies. However, in line with the fuzzier, usage-based criterion for lexicalisation, (1) may also be extended to regular complex forms when they are frequent and highly conventionalised.

The remainder of this paper is devoted to assess the validity of (1) across the phonological hierarchy – starting from the segmental level in Section 2.1, going up to the phrase level (Section 3.3) – and to identify the lexicon as one of the sites responsible for repetition avoidance in German.

## 2. Repetition and repetition avoidance at the sub-lexical level

### 2.1 The segmental level

The German lexicon is free of geminates. While this statement may not be true of all varieties (Kraehenmann 2001, Fleischer & Schmid 2006, Drake 2013: *passim*), it is true for the great majority of them, at any rate for the varieties of modern Standard German and also for the modern varieties of the other major West Germanic languages like English or Dutch. There are simply no lexical roots that feature geminates. In terms of autosegmental phonology, geminates are understood as a sequence of two consonantal positions with the same melodic specification (Schein & Steriade 1986). Even though the phonetic surface often suggests a single segment that is lengthened (see, e.g., Ridouane 2010, and references therein), the phonological consensus is true to the literal sense of the term “geminate” (the Latin term for ‘twin’, i.e., two instances of the same), and this is why it concerns us in the context of a discussion of repetition in language. When morphology motivates gemination, lexical phonology will often either degeminate, or – if, for whatever reason, degemination is not an option – block the formation of the word altogether. Obligatory degemination is illustrated in (2a): when the diminutive suffix *+lein* attaches to stems ending in a schwa-[l] sequence, the result is always a singleton

[l]; the underlying geminate does not surface. In case of monosyllabic stems ending in [l] the suffix *+lein* is blocked (2b) and *+chen* is used for diminution. Conversely, stems that end in a dorsal fricative [ç, x] do not accept *+chen*, as this leads to (underlying) gemination of the dorsal fricative (2c) (Brugmann 1917):

- (2) Diminutive suffixes *+lein* and *+chen*
- a. Engelein ‘angel.DIM’ /ɛŋəl+laɪn/ [\*ɛŋə:l̩aɪn, ɛŋəlaɪn]  
Vögelein ‘bird.DIM’ /fø:gəl+laɪn/ [\*fø:gəl̩aɪn, fø:gəlaɪn]
  - b. \*Bällein~Bällchen ‘ball.DIM’ /\*bal+laɪn/~ /bal+çən/ [bɛlçən]  
\*Spielein~Spielchen ‘game.DIM’ /\*ʃpi:l+laɪn/~ /ʃpi:l+çən/ [ʃpi:lçən]
  - c. \*Bächchen~Bächlein ‘creek.DIM’ /\*baç+çən/~ /baç+laɪn/ [bɛçlaɪn]  
\*Kelchchen~Kelchlein ‘goblet.DIM’ /\*kɛlç+çən/~ /kɛlç+laɪn/ [kɛlçlaɪn]

Arguably for the same reason, the otherwise productive adjectival suffix *+lich* is blocked from attaching to stems ending in [l], and, whenever possible, alternative suffixes are used instead (3):<sup>4</sup>

- (3) a. *wechsel+haft*, \**wechsel+lich* ‘changeable’  
*wandel+bar*, \**wandel+lich* ‘changeable’
- b. *wohl+ig* \**wohl+lich* ‘pleasant’  
*nebl+ig* \**nebl+lich* ‘foggy’

Similarly, the deonymic collective suffix *+s* (4) cannot attach to names ending in a stressed syllable with final [s] (4b). In this case, the allomorph *+ens* is used or, alternatively, a periphrastic form. If the name ends in an unstressed syllable with final [s] (4c), only singleton [s] will surface, geminate [s:] is out of bounds (cf. /ja:kɔps+s/ → [ja:kɔps ~ \*ja:kɔps:]):

- (4) Family name – collective
- a. Müller – die Müllers
  - b. Fuss – \*die Fuss-s ~ die Fussens ~ Familie Fuss
  - c. Jacobs – die Jacobs ~ die Jacobsens ~ Familie Jacobs

While *+lein*, *+chen*, *+ling*, and *+lich* never lead to geminates when attached to their stems, this is not true for the suffixes *+los*, *+bar*, and *+tum*. This difference correlates with the fact that the former suffixes may trigger stem allomorphy (umlaut) while the stems remain unaffected by suffixation of the latter.

A recent study by Kotzor et al. (2016) attests to gemination of the lateral in [l]-final stems suffixed with *+los*, like *wahl+los* ‘indiscriminate’, *zahl+los* ‘countless’,

4. Similarly, the *+ling* suffix does not attach to [l]-final stems in Modern Standard German.

*ziel+los* ‘aimless’, when compared to singleton [l] in *Wahl+en* ‘elections’, *Zahl+en* ‘numbers’, *ziel+en* ‘to aim’.

In contrast to the other suffixes discussed so far, the boundary between stem and the *+bar-* or *+tum-*suffix always corresponds to a syllable boundary.<sup>5</sup> Accordingly, with stem-final /t/ in (5) or /b,p/ in (6), geminates may arise.

Words with the *+tum* suffix are rare and *+tum-*suffixation is probably only productive in deonymic contexts (as in *Griechen+tum* ‘hellenism, Greek culture’, *Franzosen+tum* ‘French culture’, *Luther+tum* ‘Lutheran culture’). The usage of the suffix is clearly restricted to elevated registers or scholarly language.

- (5) Geminate /t:/
- a. Gott+tum ‘divinity’
  - b. Heimat+tum ‘traditions pertaining to the homeland’
  - c. Schrift+tum ‘literature’

The more productive suffix *+bar* attaches to verbal bases and produces geminates when the verbal root ends in a labial plosive /p,b/ (6):

- (6) Geminate /b:/<sup>6</sup>
- a. handhab+bar ‘manageable’
  - b. heb+bar ‘liftable’
  - c. kipp+bar ‘tiltable’

However, geminate avoidance is still observable in the context of the *+bar-*suffix: in current language use, the conceivable forms with *+bar* in (7) are largely blocked and supplanted by alternative constructions that forgo the geminate:

- (7) Geminate avoidance
- a. ??glaub+bar ~ ✓glaub+haft ~ ✓glaub+würdig ‘believable’
  - b. ??lob+bar ~ ✓l**ö**b+lich ~ ✓lob+ens+wert ‘laudable’
  - c. ??an+streb+bar ~ ✓er+streb+ens+wert ‘desirable’

In any case, geminates that come about by suffixation of *+tum* or *+bar* or *+los* are considered post-lexical. Lexicalisation of the suffixed words is not motivated, since the morphophonology is entirely regular: in contrast to diminutive *+lein* or *+chen*

5. As these suffixes start in a plosive, which constitutes a sonority minimum, resyllabification is not an option. In the case of the other suffixes, stem-final material may well resyllabify: *Kind+lein* ‘child.DIM’ [kn.tlaɪ̯n]; *Kind+chen* ‘child.DIM’ [kn.tçən]; *kind+lich* ‘childish’ [kn.tlɪç]).

6. In stem-final position, /b/ undergoes final devoicing, neutralising the distinction between /p/ and /b/ in this position. This process cannot be observed, however, when /b/ forms a geminate with the following morph-initial /b/, as the release of the geminate plosive is regulated by the morph-initial /b/ that is voiced.



or adjectival +*lich*, these suffixes do not trigger umlaut or any other stem allomorphy. Also, the semantics of the complex words is transparent and predictable. Kotzor et al. (2016) coin the term “fake geminate” for these post-lexical geminates.

The same argument holds when considering geminates produced by prefixation (8), as prefixes also do not trigger stem allomorphy:

- (8) a. um+manteln ‘to coat sth.’  
 b. ent+tarnen ‘uncover’  
 c. ab+biegen ‘to turn’

Post-lexical geminates may also be found in compounds (9) (from Kloeke 1982: 225):

- (9) Geminates in compounds  
 a. Schalt+technik [ʃalt:ɛçnik] ‘switching technology’  
 b. Fehl+leistung [fe:l:aɪstʊŋ] ‘mistake’  
 c. Stief+vater [ʃti:f:atɐ] ‘stepfather’

There are certain compounds the high usage frequency of which suggests that they may be listed as full forms in the lexicon (10). As would be predicted according to (1), these compounds do not show geminates unless in overarticulated speech, e.g., when the speaker needs to clarify the morphological structure of the word.

- (10) De-gemination in lexicalised compounds  
 Hand+tasche [#hant:aʃə ~ hantaʃə] ‘handbag’

Further evidence for geminate prohibition in the German lexicon comes from loan assimilation. As the examples in (11) show, geminates from the source language get lost in translation and resurface as singleton (if ambisyllabic) consonants:

- (11) a. *Pizza*: Italian: [pits:a] ~ German: [pɪtsa]  
 b. *Mortadella*: Italian: [mɔrtadel:a] ~ German: [mɔɐ̯tadɛla]  
 c. *Spaghetti*: Italian: [spaget:i] ~ German: [ʃpageti]

In sum, the data confirm that consonant repetition, or gemination in German may apply between, but is prohibited within, elementary lexical items.

## 2.2 The syllable level

The inventory of German roots mainly consists of forms that are either monosyllabic or bisyllabic with only one full vowel (Golston & Wiese 1998). For this reason, adjacent identical syllables within simplex lexical items are exceedingly rare. Still, at first sight, the repetitive forms in (12) cast doubt on the validity of the generalisation (1). These words, which are usually associated with child language,

are clearly lexicalised (or lexicalisable) disyllables the two syllables of which appear to have identical segmental content. A similar pattern is used for nickname formation (13). This derivational process involves truncation of the full name to the initial light CV syllable and subsequent doubling of that syllable. Doubling serves to establish wordhood, as a light syllable cannot serve as a word on its own (in that sense, reduplication serves phonological rather than morphological needs, see, e.g., the notion of *compensatory reduplication* in Yu 2005). The pattern is productive yet heavily constrained by the segmental context: names with complex (14a) and laryngeal onsets (14b), (14c) do not undergo this truncation plus doubling process, as these onsets are illicit in word-final unstressed CV syllables.

- (12) Mama, Papa, Pipi, Kaka ‘Mama, Papa, pee, poo’
- (13) a. Jojo < Johannes → [jo] → [jo:jo]  
 b. Lulu < Luise → [lu] → [lu:lu, lɔlu]  
 c. Vivi < Viola → [vi] → [vi:vi, vɪvi]
- (14) a. \*Bribri < Britta → [bri] → \*[bri:bri]  
 b. \*Ii < Ina → [ʔi] → \*[ʔi:ʔi]  
 c. \*Haha < Hartmut → [ha] → \*[ha:ha]

Likewise, only names with cardinal vowels allow this truncation-plus-doubling process. Apparently, syllables with diphthongs (15a), front rounded vowels (15b), or non-low lax vowels (15c) cannot be doubled in this way because the resulting structure would feature such a vowel in a final open unstressed syllable, which is ungrammatical in German:

- (15) a. \*Meimei < Meike → [maɪ] → \*[maɪmaɪ]  
 b. \*Lyly < Lydia → [ly] → \*[ly:ly]  
 c. \*Käkä < Käthe → [kɛ] → \*[kɛ:kɛ]

As for the licit patterns, closer inspection reveals a fundamental phonological difference between the two syllables involved, and this difference is related to stress. Note that the words in (12) and (13) are trochaic, i.e., the first syllable is stressed and the second unstressed. Crucially, a difference in terms of stress engenders a segmental difference as well, at least under the rather uncontroversial assumption that light CV syllables cannot bear stress in German. Correspondingly, the stressed initial syllables of the forms in (12) and (13) need to become heavy (or bimoraic), either featuring a long vowel or a coda consonant. For the coda, the onset of the second syllable is harnessed, making it an ambisyllabic yet singleton consonant. Tense vowels undergo laxing in this process (*Diane* > *Didi* [didi]). This prosodic difference upholds the claim in (1), i.e., disyllabic forms with one stressed and one unstressed syllable cannot possibly invalidate the generalisation because of

the implied segmental difference of the two syllables. In order to invalidate (1), one would need to adduce forms with two segmentally identical syllables that also feature the same stress value.

Sequences of unstressed identical syllables may surface, but they come about by inflection (16) – consequently, these forms are not assumed to be stored as independent items in the lexicon and therefore do not invalidate (1):

- (16) a. *lecker+er+er* [lɛ.kɐ.ʁɐ.ʁɐ]  
       ‘delicious+COMP+STRONGINFL’  
       b. *heiser+er+er* [haɪ.zɐ.ʁɐ.ʁɐ] ‘hoarse+COMP+STRONGINFL’  
       c. *begonn+en+en* [bəɡɔnɛnɛn] ‘begin+PST.PART+PL’

### 2.2.1 Syllable repetition in the non-native stratum

A number of non-native words exhibit a sequence of segmentally identical adjacent unstressed syllables (17):

- (17) a. Haploglogie, Philologie, Daktyloglogie, Autotomie, Phytotomie  
       b. Rokoko, Prostata

Apart from their etymology and their restricted use (mostly in scholarly registers), certain phonological features set these words apart from the core of the lexicon: First, they are polysyllabic but do not exhibit reduced vowels (as mentioned above, polysyllabic but morphologically simplex words in German usually have only one full vowel, e.g., *Ebene* [ɛbənə] ‘plain’). Secondly, they deviate from the trochaic ideal (Eisenberg 1991), as the words in (17b) are dactylic and the words in (17a) feature word accent on the final syllable. Furthermore, these latter words (17a) are morphologically decomposable into a stem and the suffixes *-logie* or *-tomie*. Accordingly, assuming a decomposed lexical representation, the words in (17a) are no counterexamples to (1), as the repetitious sequence straddles the morphological boundary.

The words in (17b) cannot be considered morphologically complex in the same way. However, the phonological behaviour of the repetitive syllables suggests that they are, contrary to first appearances, not really identical: while the middle syllable (the first instance of the repetitive sequence) may be reduced to schwa in running speech ([rɔkəkɔ, prɔstətə]), the final syllable always features a full vowel ([\*rɔkəkə, \*prɔstətə]). This difference in terms of susceptibility to vowel reduction may serve as evidence for the assumption that such trisyllabic words are decomposable into two feet, i.e., a strong trochee plus a weak monosyllabic foot (see Domahs et al. 2008 and Knaus & Domahs 2009 for similar arguments and experimental evidence). Under this approach, the first instance of the repetitive syllable sequence would

be unstressed while the second syllable would be stressed (without bearing word accent). Following this approach leads us to dismiss the words in (17b) as counter-examples to (1) in the same way as we did regarding the Examples (12) and (13).

As for sequences of segmentally identical syllables bearing stress, we need to move higher up in the phonological hierarchy, for every stressed syllable projects a phonological foot of its own. It would thus be considered a repetition of (mono-syllabic) feet rather than syllables.

### 3. Repetition at the lexical level and above

#### 3.1 The foot level

The minimal phonological word in German consists of a metrical foot which in turn consists of exactly one stressed syllable and, optionally, of adjacent unstressed ones. The prototypical foot in German is a trochee, which may be disyllabic, as in *Blume* ‘flower’, or a (minimally bimoraic) monosyllabic form (*Kamm* ‘comb’). Reduplication in German (18), taken from Kentner (2017: 234), targets the phonological foot and is thus an example of prosodic morphology, producing forms comprising exactly two feet. Consequently, these forms are either disyllabic (when the base is monosyllabic) or quadrisyllabic (in the case of disyllabic bases).

(18) Rhyme and ablaut reduplication

- a. Hinkepinke (<hink), Hasepase (<Hase), popelmopel (<Popel)  
hopscoth (<hobble), sweetheart (<bunny), nose picker (<bogy)
- b. Wirrwarr (<wirr), Mischmasch (<misch), Krimskrams (<Krams)  
jumble (<woozy), hotchpotch (<mix), bric-a-brac (<stuff)

A recent analysis of these words (Kentner 2017) considers reduplication to be the consequence of affixation of segmentally underspecified prosodic structure, viz. a metrical foot that is the exponent of an expressive morpheme responsible for the facetiously pejorative meaning that is associated with these words. While previous work considers any type of reduplication in German to be morphologically unproductive and unsystematic (Barz 2015, Bzdęga 1965: 22; Schindler 1991, Wiese 1990), Kentner (2017) shows that rhyme and ablaut reduplication are productive means for nickname formation and, as such, create lexicalisable forms. Crucially, base and reduplicant have to be strictly non-identical, in line with (1). As exemplified in (18), non-identity is ensured by either rhyme (18a) or ablaut (18b). A variant of rhyme reduplication involves a linking element, such as *pop* in (19), thwarting adjacency of base and reduplicant:

- (19) Rhyme reduplication with linking *pop*  
*Annepopanne* (< *Anne*), *Edepopede* (< *Ede*), *Ingepopinge* (< *Inge*)

Conceivable forms without phonological alternation or linking morphs (*\*hinkehinke*, *\*mischmisch*) do not seem to be accepted according to a questionnaire reported in Kentner (2017: 251–254).

A related case of reduplication is represented by the words in (20):

- (20) a. tagtäglich ‘every single day’ lit.: ‘day-daily’  
 wortwörtlich ‘literally, word by word’ lit.: ‘word-wordly’  
 b. jahrjährlich ‘every single year’ lit.: ‘year-yearly’  
 stundständig ‘every single hour’ lit.: ‘hour-hourly’

Here, reduplication adds emphasis or, more precisely, it signifies that the sequential meaning expressed by the stem+*lich*-construction applies without exception. Apparently, these words invariably require umlaut. Umlaut on the second stem satisfies the non-identity requirement of (1) in this construction. Interestingly, even though only the expressions in (20a) are listed in dictionaries of Modern Standard German, the pattern appears to be weakly productive: One may occasionally find expressions like (20b) which appear to be modelled on this pattern.

However, stems that resist umlaut in the context of the suffix +*lich* (*laut+lich* ~ *\*läut+lich* ‘phonemic’) seem to be illicit (21a). Likewise, conceivable expressions with stems that prohibit umlaut due to their prosodic makeup (21b) (Fanselow & Féry 2002) are clearly ineffable:

- (21) *\*lautlautlich*, intended: ‘faithful to the sound sequence’  
*\*monatmonatlich*, intended: ‘every single month’

This observation is in line with the ban on exact adjacent repetition in (1). An interesting feature of the words in (20) lies in their structural ambiguity. The emphatic morpheme expressed by the prefixed reduplicated root takes scope over the stem+*lich* construction, as it is the sequential meaning furnished by +*lich* that is accentuated. This suggests the structure [ tag [ täg+lich ] ], i.e., affixation with +*lich* precedes reduplication. From a phonological perspective, however, this type of reduplication requires that the morphophonology has access to the bare, non-umlauted root (the emphatic exponent), which in turn promotes a bracketing with stem and reduplicant within a single cycle: [ [ tag-täg ]+lich ].

### 3.1.1 Exceptions to (1)

While the examples in (18), (19), and (20) abide by the letter of (1), there are words that do exhibit exact adjacent repetitions of foot-sized material. These instances are clearly lexicalised and therefore true exceptions to (1). I will first distinguish two

types of words, discuss their status in the lexicon, and then consider why they may be beyond the reach of the generalisation in (1).

First, there are a couple of words (22) that are not morphologically derived but onomatopoeias, ideophones, or borrowings. That is, in contrast to (18), the phonological roots of the repetitive forms in (22) do not have a morphological analogue. Since the phonological doubling does not operate on a native morphological base, these words do not count as reduplications (reduplication being understood as a process forming morphologically complex words).

- (22) a. Bonbon, Couscous, Kuckuck, Tse-tse-Fliege, Wauwau  
           goody, couscous, cuckoo, tsetse, bow-wow  
       b. ballaballa, Dumdum, [aus dem] Effeß [können], plemplem, Tamtam  
           crazy, dumdum, to know off pat, batty, tomtom

Forms that belong to this group are few and far between. Their origin is varied and often unclear. *Bonbon*, *Couscous*, *Tsetse*, and *Dumdum* are loan words; *Tamtam*, *Wauwau*, and *Kuckuck* are onomatopoeic; *Effeß* may be derived from an abbreviation, while *ballaballa* and *plemplem* appear to be ideophonic coinages created out of thin air. The fact that the latter involve doubling of phonological material may be related to their being typically accompanied by a repetitive hand gesture (e.g., repetitive tipping of the index against the forehead, indicating craziness). The words in (22a) are accented like compounds, i.e., on the first foot. The ones in (22b) are accented on the second foot. One might say that the accentual difference between the two phonological feet that make up the reduplicative word is enough to uphold the claim in (1). However, in contrast to the forms in (13), the difference in terms of accent between the syllables of the words in (22) does not affect the segmental structure of the syllables, and therefore neither the lexical representation; in this regard, the phonological effect of accent position is weak or non-existent, even though accent certainly affects the phonetic implementation. Their exemption from the generalisation in (1) is likely related to their status as loans, onomatopoeias, and ideophones.

The second group of words violating (1) is abbreviations or initialisms (23). When an abbreviation contains a sequence of equal letter names, the spoken rendition will exhibit exact adjacent repetition of phonological feet. With the exception of the name for the letter <y> /ypsilon/ – which does not feature in any current German abbreviation – all letter names in German are monosyllabic, featuring either a long vowel (e.g., <d> /de:/, <h> /ha:/), a diphthong (<v> /fau/) or a short vowel plus coda (e.g., <f> /ɛf/, <j> /jɔt/, <l> /ɛl/). That is, they are bimoraic and stressable, and thus correspond to a phonological foot. As abbreviations often serve as proper names, they are clearly lexical items (for pertinent neurolinguistic evidence, see Brysbaert et al. 2009). The majority of abbreviations is two or three letters long, but

there are exceptions that exceed this standard measure (e.g., *HfMDK – Hochschule für Musik und darstellende Kunst* – ‘university of music and performing arts’).

- (23) DDR – Deutsche Demokratische Republik [ˌdeːdeːʔɛɔ̯]  
 ÖBB – Österreichische Bundesbahn [ʔø̯ ˌbeːˈbeː]  
 PNN – Potsdamer Neueste Nachrichten [ˌpeːʔɛnʔɛn]

Compared to (22), the list of current, conventional abbreviations with iterating letter names is certainly longer (and systematically expandable). What sets the abbreviations apart from other instances of doubling (13) or reduplication (18) is the fact that the repetitions in (23) are accidental. In the cases of syllable doubling and reduplication, the repetition is an inherent feature of the word formation, and the repetitive elements derive from a single underlying morphophonological source. The source form of the abbreviations, in contrast, already features two independent (non-adjacent) instances of the letters that come to be adjacent parts of the initialism.

In spite of (1), the lexicon appears to tolerate exact adjacent repetitions in the case of the abbreviations. Note, however, that, apart from the violation of (1), abbreviations exhibit other morphophonological exceptions: The inventory of syllables is restricted to the 28 letter names. These letter names are stressed monosyllables with strong constraints on syllable structure: the rhyme of the syllables is strictly confined to two positions, featuring either a long vowel without coda or a short vowel with a coda. There are no complex onsets or codas (with the exception of <x>). Also, again with the exception of <y>, there are no unstressed syllables in letter names. The main stress (or word accent) of the initialism is on the last syllable, irrespective of the length. In this regard, they differ from words like (24) that feature similarly simple syllable structure but vary with respect to word accent:

- (24) a. Harakiri [ˌharaˈkiːɾi]  
 Orinoko [ʔo̯ɾiˈnoːko]  
 b. Marabu [ˈmarabu]  
 Natalie [ˈnatali]

The phonological behaviour thus marks abbreviations as a special kind of lexical items. Moreover, while the word forms in (18) are readily interpretable as complex words with a transparently traceable base, deriving the source word/phrase for an abbreviation is hardly possible without explicit knowledge, as the association between the letter and the source word is indeterminate. Therefore, even though the individual letters each represent meaningful material (as stand-ins for whole words), abbreviations are not morphologically structured. In contrast to other processes of word formation like derivation or compounding or even reduplication,

there is no systematic head-modifier relationship among the constituting elements (i.e., the letters) in initialisms. Moreover, as noted by Mattiello (2013: 64 et seqq., and references therein), initialisms do not alter the morphosyntactic category or semantics of the source form. Therefore, it stands to reason that abbreviations constitute a lexical stratum of their own, with different morphological and phonological rules applying to them. The generalisation in (1) does not hold in this stratum.

### 3.2 Repetition at the p-word level

Repetition of phonological words (p-words) may either lead to special kinds of compounds (25), (26), (27), or to a repetitive word sequence (28). Each of these examples will be discussed in relation to (1). Moreover, some phrasal constructions exhibit a repetition of words; these are likewise of varied nature and deserve discussion in a section of their own (Section 3.3).

- (25) “Self-compounding”  
 Kindeskind ‘grandchild’; lit: ‘child’s child’  
 Helfershelfer ‘accomplice’; lit: ‘helper’s helper’
- (26) Identical constituent compound  
 Willst Du Reisreis oder Basmatireis?  
 Want.2SG you rice-rice or Basmati-rice  
 ‘Do you want rice-rice or Basmati rice?’
- (27) (unbounded) recursive prefixation  
 Vor-vor-gestern ‘three days ago’; lit: ‘the day before the day before yesterday’  
 über-über-über-morgen, lit: ‘the day after the day after tomorrow’  
 Ur-ur-ur-oma ‘great-great-great-grandmother’  
 klitze-klitze-klitze-klein ‘teeny- teeny- teeny-weeny’
- (28) Lexical sequences  
 dalli dalli, hopp hopp, los los<sup>7</sup>  
 ‘hurry up, get a move on, go’  
 sehr sehr schön  
 ‘very very nice’  
 ein alter alter Mann  
 ‘an old old man’

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7. The orthographic representation of these sequences is quite variable. *Dallidalli*, *dalli-dalli*, and *dalli dalli* are all attested.



### 3.2.1 “Self-compounding”

“Self-compounds” (Ger.: *Selbstkompositum*) like *Kindeskind* (25) feature iterating phonological material, yet, at least in the case of the few lexicalised items I am aware of (25), the repeated elements are separated by linking elements (the insertion of which may additionally lead to phonological alternation, e.g., the non-application of final devoicing in *Kin[d]-es-kin[t]*). The linking element prevents adjacency of the identical stems and thus the generalisation in (1) is upheld. The few current “self-compounds” are typically used in idiomatic contexts and need to be lexicalised because of their somewhat opaque semantics (*Kindeskind* does not only refer to the generation of the ‘child of the child’ or grandchild but also to the following generations; the meaning of *Helfershelfer* ‘helper’s helper’ is restricted to accomplices for malicious deeds). Other compounds with the same structure (N<sub>i</sub>+linking element+N<sub>i</sub>; e.g., *Verein+s+verein* lit: ‘union’s union’) may occasionally be produced but if they are, they are typically created “for the nonce” (i.e., they do not become lexicalised). However, Günther (1981: 270) and Freywald (2015) suggest that these words are mostly intelligible even when presented without context.

### 3.2.2 *Identical constituent compounds (ICC)*

A similar type of compound is exemplified in (26). These special compounds have various names in the literature: *Identical Constituent Compound, ICC* (Hohenhaus 2004, see also Frankowsky, this volume), *Contrastive Focus Reduplication, CFR* (Ghomeshi et al. 2004), *Lexical Clones* (Horn 1993, 2018), *Real-X-Reduplication* (Stolz et al. 2011: 199). For our concern, the relevant difference from the examples in (25) lies in the lack of the linking element, making the compounds an example of exact adjacent repetition. The formal difference is accompanied by a difference concerning their use, their interpretation and, crucially, their potential for lexicalisation. ICCs are created as *ad-hoc* compounds that restrict the meaning of the lexical item to its prototypical or ideal properties. Crucially, the interpretability is bound to contrastive contexts, as the construction denotes the stem’s prototypical features vis-à-vis less prototypical but salient alternatives. However, the relevant dimensions for determining prototypicality hinge on the situation of usage. This semantic indeterminacy is vividly illustrated by the word *Freundfreund* ‘friend-friend’ which may be interpreted either as ‘boyfriend, romantic partner’ or as ‘buddy, not romantic partner’, depending on the context (Freywald 2015: 920–921). Therefore, in line with the context-boundedness, and in fact their *ad-hoc* creation and use, an essential characteristic of these items is their resistance to lexicalisation. As Horn (2018: 236) succinctly puts it, “no move is made to register such an item in the permanent lexicon.” Apparently, the pragmatics and the indeterminate meaning prevent lexicalisation; these words therefore do not touch upon the generalisation (1), i.e., this type of exact adjacent repetition is post-lexical and thus permissible.

Finkbeiner (2014) and Freywald (2015) call attention to the fact that not all ICCs that lack linking elements give rise to the context-dependent prototypicality reading, i.e., they do not necessarily entail contrastive focus. Instead, some are interpreted along the lines of other endocentric compounds. Consider, e.g., the word *Umfrage-Umfrage* lit.: ‘survey-survey’ in which the modifier represents the intellectual content of the head (i.e., a survey concerning surveys); or *Glas-Glas* (a drinking glass made of glass) with the modifier denoting the material the (metonymic) head is made of. However, it is important to note that these words are again nonces, i.e., they are used exclusively for the occasion in which they are created, and do not become lexicalised. In fact, (1) predicts that the lack of the linking element (or of phonological alternation) prohibits the lexicalisation of these compounds. I am aware of three exceptions to this prediction, and I suggest that such a small number of isolated cases (29) does not justify to abolish the generalisation in (1):

- (29) a. Pinkepinke (< Pinke) ‘money’  
 b. Kleinklein (< klein ‘small’) ‘annoying details’  
 c. Filmfilm (name for a programme of blockbuster films)

### 3.2.3 *Unbounded repetition*

While the repetition in the previous examples produces a sequence of maximally two instances of a word, the repetition in (27) and (28) are unbounded in principle. Multiple repetition is observable in the context of certain recursive derivational affixes (27):<sup>8</sup> the prefixes *vor+*, *über+*, *klitze+*, and *ur+* may be iterably attached to the stem. Performance factors aside, there is no upper bound to this process. As unboundedness is incompatible with lexicalisation, each of these words needs to be created on the fly out of the elementary morphemes and will not, as a whole, become part of the lexicon. The generalisation in (1) therefore holds in spite of the exact adjacent repetitions.

Unboundedness also holds for repetitive word sequences like (28): the grammar does not determine a maximum number of repetitions. As Schindler (1991) convincingly shows, repetitive sequences like *sehr sehr schön* ‘very very nice’ fail to show lexical integrity as they might be broken up (*sehr, wirklich sehr schön* ‘very, really very nice’). Correspondingly, even though a repetition producing two instances of the word (as in *hopp hopp, dalli dalli*) may be normal and more common than a single instance (*hopp, dalli*) or threefold repetition (*hopp hopp hopp, dalli dalli dalli*), this number is not fixed. These repetitive sequences are thus not assumed to be lexicalised.

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8. Phonologically, these prefixes behave like compound stems, as they bear compound accent.

### 3.3 Repetition at the phrase level

The lexicon contains not only morphemes or word-like vocabulary items but also certain word sequences when these are idioms, i.e., not compositionally transparent. In the following discussion on the ban of exact adjacent repetition, I will consider idiomatic constructions that involve overabundant repetition of phonological material and compare them to other word sequences involving repetitions.

(30) N+P+N construction

Tag für Tag ‘day by day’

Mund-zu-Mund-[Propaganda] ‘word-of-mouth recommendation’

Jahr um Jahr ‘year by year’

(31) Frozen coordinations

hegen und pflegen ‘to nourish and cherish’

schalten und walten ‘to have carte blanche’, lit: ‘operate and rule’

mit Sack und Pack ‘with bag and baggage’

Both (30) and (31) adhere to the generalisation in (1). The twin nouns in (30) are separated by a preposition, thwarting adjacency of the repeated elements. The preposition is sometimes variable and semantically opaque: note that *Tag für Tag*, *Tag um Tag* are synonymous variants, irrespective of the difference concerning the preposition. Despite its semantic weakness, the preposition cannot be omitted in these constructions. I therefore argue that, apart from signalling the sequential meaning inherent in these N+P+N constructions, the preposition also serves as a kind of epenthesis, fulfilling the phonological requirement formulated in (1) for these constructions to become lexical items. The idiomatic co-ordinating constructions (31), also called *frozen binomials* because their word order is fixed, are likewise open to lexicalisation (Müller 1997). In contrast to the cases in (30), the corresponding stems in (31) are “dizygotic twins”, as it were. The stems involved may be near-synonymous and near-homophonous but, crucially, not identical. Conceivable idioms with identical stems are illicit (*\*hegen und hegen*), or at least pragmatically not equivalent to the constructions in (31) – in spite of the formal and semantic similarity. In the phrasemes (31), the coordinating *und* ‘and’ thwarts adjacency of the corresponding stems; one may therefore argue that the phonological alternation of the stems is not called for to avoid exact adjacent repetition. However, it is possible to string the stems together as part of a list without the intervening *und* while retaining the idiomatic character of the construction (32). The coordinating *und* is therefore not considered a necessary part of the idiomatic expression. Without *und*, the corresponding stems are adjacent – the phonological difference between them is therefore crucial for upholding the generalisation in (1).

- (32) a. Hegen, pflegen und wässern muss das Grün niemand.<sup>9</sup>  
 ‘nobody needs to nourish, cherish and water the verdure’  
 b. In der [...] Küche schalten, walten und steuern Sie...<sup>10</sup>  
 ‘In the kitchen, you have carte blanche and you regulate...’  
 c. Mit Sack, Pack und Esel auf dem Jakobsweg<sup>11</sup>  
 ‘With bag and baggage and donkey on the way of St. James’

As an aside, splitting the corresponding conjuncts with other material often yields infelicitous or clearly less well-formed phrases. The stems are therefore considered locally connected; the same holds for (30), see Jackendoff (2008: 20–22) or Müller (2016: 5):

- (33) a. ??wir **hegen** die Beziehung und **pflegen** sie  
 ‘we nourish the relation and cherish it’  
 b. ??**schalten** und autoritär **walten**  
 ‘to control and to prevail authoritatively’  
 c. ??mit **Sack** und schwerem **Pack**  
 ‘with bag and heavy baggage’

Compare (30) and (31) with another construction involving corresponding stems, viz. the *X-and-X* construction (Finkbeiner 2012). These items feature identical words that are usually separated by *und* (34) (taken from Finkbeiner 2012: 1):

- (34) X-and-X-construction  
 A: Schade dass die so teuer sind.  
 ‘It’s a shame they are so expensive.’  
 B: Naja, **teuer und teuer** – wenn die Qualität stimmt, dann finde ich den Preis okay.  
 ‘Well, expensive and expensive – if the quality is good, the price is fine with me.’

For our concern, it is important that, as in the case of (31), one may possibly forego the co-ordinating *und* when the list of conjuncts is expanded, as in the constructed

9. <https://www.badische-zeitung.de/hegen-pflegen-und-waessern-muss-das-gruen-niemand-119687866.html> [accessed 27. September 2020]

10. <https://www.hansgrohe.de/kueche/ratgeber/kuechenplanung/ergonomie> [accessed 27. September 2020]

11. <https://www.mainpost.de/regional/wuerzburg/Mit-Sack-Pack-und-Esel-auf-dem-Jakobsweg;art735,7568553> [accessed 27. September 2020]

example in (35). In this case, which presupposes various (at least three) degrees of *blau* 'blue', the identical words are strung together without intervening material.<sup>12</sup>

(35) X-and-X-construction with three conjuncts (constructed)

A: Ich kann blaue Pullover nicht ausstehen.

'I can't stand blue pullovers.'

B: Naja, **blau, blau und blau** – solange es nicht zu blass ist, finde ich es ok.

'Well, blue, blue, and blue – if it is not too pale, it is fine with me.'

As elaborated in Finkbeiner (2012), the meaning of (34) (and (35), for that matter) is not lexically fixed but highly context-dependent. According to Finkbeiner (2012), their meaning corresponds to the proposition (36) in which the context-dependency is explicit (from Finkbeiner 2012: 22):

(36) Meaning of the X-and-X construction

The meaning of X in situation A differs from the meaning of X in situation B [and both differ from the meaning of X in situation C].

Correspondingly, while coordinating constructions like *hegen und pflegen* (31) are lexicalised, constructions like *teuer und teuer* (34) are not. Therefore, as the constructions in (35) do not represent lexical items, the adjacency of identical words in (35) does not pose a problem for the phonotactic generalisation in (1).

Finally, combinations of first and last names can be considered phrasal constructions which may become lexicalised. In line with the generalisation in (1), combinations of identical first and last names, e.g. *??Franz Franz* are probably unattested (they at least appear to be highly marked), while near identical first and last names can be readily combined (names like *Otto Ott*, *Peter Peters*, *Klaas Klaus* are attested).

## 4. Summary and conclusion

### 4.1 Summary

Table 1 summarises all instances of structures with iterating phonological material that were discussed in this paper, listed by phonological level.

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12. Rita Finkbeiner (p.c.) rates (35) as doubtful, as speakers use the X-and-X construction to question the adequacy of the relevant predicate *blau* in the current situation without necessarily assuming identifiable degrees of *blau*.

Table 1. Structures with iterating phonological material

Phonological level	Exact adjacent repetition	Degemination, non-identical or non-adjacent repetition
Segment	potential geminates with <i>+bar</i> , <i>+los</i> , <i>+tum</i> , <i>um+</i> , <i>an+</i> etc, <i>Schrifttum</i> [ʃʁɪft:um]	degemination in the context of <i>+lein</i> <i>Vogel+lein</i> [føgəlaɪn]
	non-lexicalised compounds <i>Schalt+technik</i> [ʃalt:ɛçnik]	Degemination in loan words <i>Spaghetti</i> [ʃpaɡeti]
Syllable	Strong inflection of comparatives ending in /r/ <i>lecker+er+er</i> [le.kɐ.ʁɐ.ʁɐ]	truncation+doubling stress-related segmental difference <i>Johannes&gt;Jojo</i> [jo:jo]
	non-native words (morphologically complex) e.g. greek suffixes <i>-logie</i> , <i>-tomie</i> <i>Philo+logie</i> [fi:lo.lo.ɡi:]	non-native words (morphologically simplex) difference in stress <i>Rokkoko</i> [(ro.ko)F (ko:)F]
Foot	loans, ideophones <i>Bonbon</i> , <i>Couscous</i> , <i>plemplem</i>	rhyme/ablaut-reduplication <i>Schickimicki</i> , <i>Wirrwarr</i>
	abbreviations <i>BBC</i> , <i>DDR</i> , <i>FKK</i>	reduplication with umlaut <i>tagtäglich</i> , <i>wortwörtlich</i>
p-word	Identical constituent compound <i>Reisreis</i> etc.	„Self-compound“ with linking element <i>Kindeskind</i> , <i>Helfeshelfer</i>
	X-and-X construction <i>teuer und teuer</i> etc.	frozen co-ordination, N-P-N construction <i>hegen und pflegen Tag für Tag</i>
	unbounded repetition <i>vorvorgestern sehr sehr schön</i>	

The columns juxtapose instances of exact adjacent repetitions on the one hand, and, on the other hand, repetitions that avoid adjacency of identical phonological material, either (a) by degemination, (b) by intervening material, or (c) by phonological alternation (rhyme, ablaut, umlaut). All cases listed in the right column of Table 1, i.e., the cases avoiding exact adjacent repetition, are lexical items or at least open to lexicalisation. Conversely, most cases in the left column are not listed in the lexicon. The only exception are abbreviations (alphabetisms for which stronger constraints must be assumed that prevent the adherence to (1)) and the few idiosyncratic forms (loans, onomatopoeias, and ideophones) discussed in Section 3.1.1. These exceptions, it seems, are rather well-defined. The synopsis in Table 1 thus corroborates the general validity of the generalisation in (1) (repeated here for the reader's convenience):

- (1) DO NOT REPEAT: Lexical items must not contain exact adjacent repetitions of phonological material (segments, syllables, feet, phonological words).

The table illustrates the wide scope of this phonotactic constraint, i.e., the fact that it holds across all relevant levels of the prosodic hierarchy, a fact that has hitherto gone unnoticed.

#### 4.2 Conclusion

All languages need to counterbalance the necessary re-use of their elementary vocabulary of phonemes, morphemes, and words with the imperative to avoid redundancy. The (hopefully representative and near-exhaustive) list of repetitive phenomena offered here suggests that German avoids redundancy in the lexicon by rather strictly prohibiting exact adjacent repetition of phonological material. The only cases that may override (1) appear to be abbreviations (*BBC*, *DDR*), loans (*Dumdum*), onomatopoeias (*Wauwau*), and ideophones (*ballaballa*). These exceptions are not amenable to a normal morphological analysis even though the repetitive form attests to morphophonological complexity.

The morphologically productive repetitive forms that abide by the generalisation in (1), e.g., syllable doubling like *Pipi*, *Bobo* (12), (13) and rhyme or ablaut reduplications like *schickimicki*, *Mischmasch* (18), *Annepopanne* (19) or forms like *tagtäglich* (20), deviate from the concatenative ideal; it is still possible to come up with a systematic morphological analysis for these patterns. Next to their peculiar phonology (overabundant repetition) and non-concatenative morphology, these forms are characterised by their expressive or affective meaning components (jocularity, pejoration, emphasis), and one might suggest that these meaning components are linked to their form that is characterized by repetition involving minimal phonological alternation (incidentally, repetition + alternation is a feature of all kinds of play). It may be the combination of phonological, morphological, and semantic peculiarity that makes these words instances of extravagant morphology.

However, in spite of the morphophonological diversity of reduplicative constructions, their elusive affective meaning components and their expressive nature, there are strict limits to the lexical-phonological representations they may have. These limits are in fact grammatical requirements. As shown, the grammatical rules or constraints either are rather specific and pertain to particular types of reduplication (i.e., the ablaut order *i>a* that cannot be reversed in reduplications) or they are more general in nature, as the ban against exact adjacent repetition that was the main focus of this small treatise.

We are thus faced with a somewhat dialectical situation: On the one hand, the variability and elusiveness of phenomena that feature under the umbrella of repetition or reduplication, their transgression of the borders between phonology, morphology, and syntax, and their oftentimes playful usage in substandard registers

of German suggest that they are beyond grammatical explanation. On the other hand, the strict adherence to phonological generalisations like (1) unites these diverse structures and links reduplication solidly to the realm of grammar proper.

This ambivalence, their dubious, and not clearly definable nature makes repetition and reduplication in German truly extravagant morphological entities. However, assigning reduplicative words to this category of deviance does not absolve us from looking closely at the individual patterns and – if possible – for each come up with an analysis of both their grammar and of their usage.

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