

## Morphological structure and lexicographic definitions: The case of *-ful* and *-like*

### Abstract

The relationship between the morphological structure of a word and its lexicographic representation touches upon two of the thorniest points in lexicography: defining styles and type of entry. Dictionaries of English have traditionally afforded derivational affixes and other combinatory elements main entry status, though they differ greatly as to what precise information they actually provide. This paper examines the lexicographic treatment of words containing two suffixes deriving from two independent words: *-ful* and *-like*. Examination of the dictionary entries in *MW10* for words containing *-ful* and *-like* confirmed our expectation about the correlation between degree of lexicalization and type of entry. It also confirmed our intuitions that *-ful* and *-like* differ from each other with respect to productivity in present-day English.

Keywords: definitions, morphology, suffixes, English lexicography

### 1. Introduction

The relationship between the morphological structure of a word and its lexicographic representation is an interesting issue in that it touches upon two of the thorniest points in lexicography: defining styles and type of entry. Dictionaries of English have traditionally afforded derivational affixes and other combinatory elements main entry status, though they differ greatly as to what precise information they actually provide. Thus, one major dictionary of American English, *The American Heritage Dictionary of the English Language, Third Edition* (hereinafter *AHD3*), labels *-ly*, *-s*, *-itis* and *-tron* simply as suffixes, whereas another major publisher, namely Random House (in the *Random House Dictionary of the English Language, First Edition*, hereinafter *RHD1*) classifies them as either a suffix (adverb-forming *-s*, *-ly*), an ending (inflectional *-s*) or a learned borrowing (*-itis*, *-tron*). This is not true of all lexicographic traditions, however; in Catalan and Spanish, for example, inflectional and derivational affixes rarely have main entry status. Descriptions of word structure in English (e.g. Bauer 1983) note that word-final elements in modern English are related to several different kinds of etymological sources: there are endings that derive from suffixes, which may be native or nonnative, endings that derive from independent words, and, finally, endings that have been borrowed directly from classical languages.

This paper examines the lexicographic treatment of words containing two suffixes of the second type mentioned above, i.e., suffixes deriving from independent words: *-ful* and *-like*. Although these two elements share this feature, are both native (as opposed to being borrowings from French, Greek or Latin), and are both used to form adjectives, thus permitting fair comparison, they are quite different from each other in important respects.

The suffix *-ful* has long been a part of the derivational morphology of English. Several words with *-ful* date from the earliest periods of English; e.g. *sorrowful* and *wonderful* are both listed in *Merriam Webster's Collegiate Dictionary, 10th edition* (hereinafter *MW10*) as

having been in use since before the 12th century. The degree of fusion with the host noun is such that the suffix is unstressed and not pronounced with the same vowel quality as the word *full* by many speakers; moreover, many words with *-ful* have been lexicalized to the extent that their meaning is not accurately described as "full of noun" (e.g., *awful* does not mean "full of awe"). The suffix is used to form adjectives as well as nouns referring to a volume which can be filled (*armful*, *mouthful*, *teaspoonful*). The suffix does not have the same spelling as the independent word, but that fact alone does not rule out synchronic lexical relatedness in English.

The synchronic relationship between *-like* and the independent word *like* is much more straightforward. Even in the cases of lexicalized meaning such as *ladylike* (which does not merely mean "like a lady" but rather "courteous or formal in behavior"), *-like* still retains the core of its meaning "resembling or similar to". As a result, *-like* is sometimes not classified as an affix but rather as a combining form or as a suffixal use of the word *like* (RHD1), on a par with *over-*.

Although we do not have data bearing specifically on this question, it is our impression that *-like* is currently more productive than adjective-forming *-ful*. Words like *cardboardlike*, *Clinton-like*, and *potterylike*, although not listed in dictionaries, seem perfectly acceptable to us. The great majority of *-ful* adjectives have been in existence for a long time, although *MW10* does list 20th-century formations with this suffix. We are not claiming *-ful* is no longer productive, but rather that *-ful* and *-like* differ with respect to productivity.<sup>2</sup> We may note in passing that new coinages with noun-forming *-ful* seem much better than potential adjectives; e.g. *ballroomful* or *demitasseful*, while pragmatically unlikely, are more acceptable to us than *\*classful* (meaning *classy*, on the pattern of *grace-graceful*).

We expect these differences in degree of lexicalization and fusion with the host noun to be reflected in dictionary entries in several ways. First, because English dictionaries typically make use of run-on entries, many of the entries for words containing *-like* should be listed as such because their meaning is entirely predictable. The number of run-on entries for words with *-ful*, however, should be significantly lower, thus reflecting its higher degree of lexicalization. Second, we expect that the main entries for *-like* words will exhibit a very limited range of descriptors, whereas the range for *-ful* words should be much wider, because the meaning of *-like* is more limited in scope. We are also interested in seeing how different dictionaries have dealt with the historical relationship between *-ful* and "full of," precisely because of words like *awful*, for which this relationship no longer holds. In that we are currently involved in a project related to dictionary design for Spanish and Catalan, we are particularly interested in seeing how morphological structure bears on lexicographic entries in English because English language dictionaries do make extensive use of run-on entries, as opposed to what generally occurs in Spanish or Catalan dictionaries.

## 2. Methodology

The electronic version of *MW10* was used to identify those adjectives ending in *-ful* and *-like* listed in the dictionary. We then grouped adjectives according to type of entry (main vs. run-on) and then by definition. *MW10* was chosen for several reasons: it is based on the major unabridged dictionary of English (Webster's Third New International Dictionary, 1961); it provides a date of first attested use; and, the fact that it was available to us on computer

ensured reliable data collection. The data from *MW10* was then compared with that from two other major American dictionaries, *RHD1* and *AHD3*, and one British dictionary, *Collins English Dictionary, Third Edition Updated* (hereinafter *CED3U*).

### 3. Analysis

#### 3.1. Treatment of adjectives with the suffix *-ful*

The first recorded date for words provided in *MW10* shows that this suffix has been unceasingly productive in English since before the twelfth century: there are adjectives ending in “*-ful*” formed in every single century since the twelfth (and even earlier: *sinful* and *wonderful*, for example, are dated “before 12c”) up to the 1940s. The result is that these words, which are numerous, are at many different stages of lexicalization, ranging from those that have evolved semantically beyond recognition (such as *wistful* or *rightful*) to those that are semantically transparent, which are often treated as run-on entries in the dictionary. Although the longer a word has been in use, the more likely it is to be highly lexicalized, the correlation does not hold for all words; for example, the meaning of *sorrowful* is predictable despite the fact that the word has been in use since before the 12th century.

The entry in *MW10* for the suffix *-ful* reads as follows:

- ful adjective suffix* [...]³
- 1: full of (*prideful*)
  - 2: characterized by (*peaceful*)
  - 3: having the qualities of (*masterful*)
  - 4: tending, given, or liable to (*helpful*)

Given the large number of senses associated with *-ful*, it is hardly surprising that the adjectives display a wide variety of definition types that prove difficult to classify. With that in mind, we proceed to examine all the different kinds of definition *-ful* adjectives have received in *MW10*.

There are 182 adjectives ending in *-ful* in *MW10*<sup>4</sup>, of which 25 are run-on entries with no definition (quite a small proportion, compared with other suffixes). We will return briefly to these 25 adjectives later, but for the moment we will concentrate on the adjectives’ definitions. Once all run-on adjectives are removed, we are left with 157 entries, but this is not the total amount of definitions that must be examined, since many entries have more than one sense (in some cases up to six), each with its own definition. The various senses of a word almost always hold some semantic relationship to each other, and this relationship can be very close, but it does not follow that the corresponding definitions are structurally similar or related, although some of them might follow a pattern. At this point in our research we have decided to deal with every definition separately, leaving the search for recurring patterns among the definitions of different senses belonging to the same lexeme for a subsequent stage. So, as the 157 entries in question provide a total of 292 definitions, this is the amount we will consider.

### 3.1.1. Two types of definition

The fact that stands out foremost when one is faced with the whole set of definitions is that their structures follow two main patterns: the first and most common consists of a group of words, or an explanation, and the second consists of one or two synonyms. We will refer to these as *periphrastic* and *synonymic* definitions, respectively.

Not all definitions containing a synonym of the defined word can be considered synonymic because synonyms are used in several ways to aid defining. In some cases a full definition is followed by a synonym (as in example (1)); there are a great number of these. In other cases a synonym is the only definition provided. The synonym is generally written in capitals, indicating that it is to be considered not as a definition proper but rather as a cross-reference (as in (2)), but sometimes the synonym appears in lower case, usually when it is modified by an adverb (as in (3))<sup>5</sup>:

- (1) **wrathful** [...] filled with wrath : IRATE [...]  
**youthful** [...] having the vitality of freshness of youth : VIGOROUS [...]
- (2) **tasteful** TASTY 1a [...]  
**deceitful** [...] DECEPTIVE, MISLEADING
- (3) **fruitful** [...] abundantly productive  
**beautiful** [...] generally pleasing  
**deceitful** not honest [...]

We only consider a definition to be synonymic in the latter two cases, and not in the first. The distribution of these two types in *MW10* is the following: of the 292 definitions we are dealing with, 233 are periphrastic and 59 synonymic, of which 43 are strictly synonymic (type 2) and 16 consist of a synonym with a modifier (type 3).

### 3.1.2. Periphrastic definitions

By far the most common kind of definition for *-ful* adjectives, then, is the periphrastic type, which is the most interesting as well. Periphrastic definitions of derived adjectives normally consist of a "relational formula" such as the ones given in the entry for *-ful* ("full of", "characterized by", etc.), which expresses the kind of relationship between the host noun and the adjective derived from it, followed by the noun in question (as in (4)) or a synonym or near-synonym (as in (5)):

- (4) **wonderful** exciting wonder  
**slothful** inclined to sloth
- (5) **reposeful** of a kind to induce ease and relaxation  
**mindful** inclined to be aware

Close examination of the 233 periphrastic definitions for *-ful* adjectives indicates that the "relational formulae" used in them can be divided into the following semantic types:

- a) Formulae indicating fullness: "full of", "filled with", as in

**wrathful** filled with wrath



- b) Formulae indicating possession, which are often closely associated to those in (a): “having”, “affected with”, “possessed with”, “possessing” (usually referring to the characteristics of something), as in

**youthful** [...] having the vitality and freshness of youth [...]

- c) Formulae indicating characterization: “characterized by”, “marked by”, “showing”, “expressing”, “expressive of”, “tainted with”, “suggesting”, “inclined to”, “indicative of”, “indicating”, “displaying”, “exhibiting”, as in

**ungrateful** showing no gratitude [...]

**uneventful** marked by no noteworthy or untoward incidents [...]

- d) Formulae indicating consequence: “involving”, “bringing”, “causing”, “inducing”, “such as to make”, “affording”, “deserving”, “arousing”, “exciting”, “providing”, “giving”, “having qualities which inspire”, “likely to cause”, “leading to”, “productive of”, “yielding”, “producing”, “conductive to”, as in

**frightful** causing intense fear or alarm [...]

**fateful** involving momentous consequences.

- e) Formulae indicating cause or source: “arising from”, “caused by”, “excited by” (less frequent than the other formulae), as in

**lustful** excited by lust.

- f) Others:

**restful** [...] being at rest.

**youthful** [...] having accomplished or undergone little erosion.

The main problem with this classification is that very often the definitions are mixed, i.e. two or more of these formulae are combined in a single definition, as in

**tactful** having or showing tact.

**manful** having or showing courage and resolution.

**skillful** possessed with or displaying skill [...]

**forethoughtful** full of or having forethought.

**forceful** possessing or filled with force.

**remorseful** motivated or marked by remorse.

**joyful** experiencing, causing, or showing joy

**insightful** exhibiting or characterized by insight

Some combinations frequently co-occurring are b-c and a-b; sometimes, also, two wordings belonging to the same semantic formula are used. The fact that about half the definitions are mixed makes it rather difficult to establish the proportions in which each of the formulae appears.

In spite of the difficulty in classifying the definitions, it is in fact the case that most of them do conform to the definition given under the entry for the suffix:

- Definition 1, “full of”, corresponds to formula **a** indicating fullness
- Definition 2, “characterized by”, corresponds to formula **c** indicating characterization
- Definition 3, “having the qualities of”, corresponds to formula **b** indicating possession (of the characteristics of something)
- Definition 4, “tending, given, or liable to”, corresponds (albeit rather loosely) to formula **d** indicating consequence; this type of definition is very frequent.

Formulae **e** and **f** are not accounted for under *-ful*, but they are much fewer in number and more heterogeneous than the others. They, like the synonymic definitions we now turn to, are used for senses which have undergone a higher degree of lexicalization.

### 3.1.3. Synonymic definitions

What we have labelled synonymic definitions actually refers to two rather different kinds of definition, neither of which can strictly be considered a synonymic definition because one is a cross-reference as opposed to a true definition, and the other because it is not necessarily based on a synonym, although this often is the case. Nevertheless, we feel the label is convenient because it groups all definitions based on a single word (sometimes with a modifier) together, as opposed to those based on a formula which expresses the adjective’s relationship to the host word. Most senses defined in this way are highly lexicalized and are not therefore amenable to a formula-based definition.

Strictly synonymic definitions follow several patterns; some examples are:

**ungrateful** [...] **2** : DISAGREEABLE; *also* : THANKLESS  
**fateful** [...] **2** [...] **b** : DEADLY, CATASTROPHIC  
**frightful** [...] **3** : EXTREME <*frightful* thirst>

Modified synonymic definitions, of which there are only 16<sup>6</sup>, are usually based either on a near-synonym modified by an adverb of quantity or of manner, or on an antonym modified by a negative adverb, as in the following cases:

**woeful** [...] **3** : lamentably bad or serious.  
**wistful** [...] **2** : musingly sad  
**fearful** [...] **3** : very great or bad – used as an intensive <a *fearful* waste> <*fearful* slum conditions>

In all of these cases it is clear that the sense of the adjective being defined, although based on derivation, has evolved away from the original sense of the host word and has acquired its own separate sense, as well as its own set of collocations and connotations.

### 3.1.4. Run-on entries

As expected, most of the 25 adjectives treated as run-on entries<sup>7</sup> are semantically transparent and therefore need no definition. Most of them could be described with the formulae “full of” or “characterized by” or both, and only in one or two cases was the adjective lexicalized or common enough to have perhaps deserved a separate entry with a definition, as in the case of “boastful”.<sup>8</sup>

3.1.5. *-ful* in *AHD3*, *RHD1* and *CED3U*

Given that “full of” was the most commonly found descriptor for *-ful* words in *MW10* (used in the definitions of 46 words), we then turned to *AHD3* and *RHD1* to see how these same words were defined. *AHD3* lists “full of” as its first sense for the meaning of suffix *-ful*, but perhaps surprisingly does not use this descriptor as much as *MW10* does in its definitions: 19 entries contain it, whereas 27 do not. Of those 27 words for which the entry does not contain “full of,” 2 have no definition because they are in run-on entries (*blissful*, *scornful*) and 3 are not listed at all (*lifeful*, *proudful*, *worthful*). In *RHD1*, too, “full of” is used less frequently as a formula for these words than in *MW10*: 26 entries in *RHD1* vs. 46 in *MW10*. Of the 20 words for which the definition does not contain “full of” in *RHD1*, 1 is a run-on entry (*prideful*) and 2 are not in the dictionary (*proudful*, *worthful*).

The entry for *-ful* in *AHD3* reads as follows:

*-ful*: **suff.** 1. full of: *playful*. a. characterized by; resembling: *masterful*. b. Tending, given, or able to: *useful*. 2. A quantity that fills: *armful*.

The editors at *AHD3* chose not to include any information on the grammatical category of the form resulting from the addition of an affix, which in this case leads them to a combined entry for *-ful*, with the first sense describing the adjective-forming suffix and the second, the noun-forming suffix. This kind of entry is not unexpected in *AHD3*, because this dictionary regularly uses combined entries for words with different grammatical functions but related semantics, although this practice is perhaps potentially confusing if no additional information is provided. The entry for *-ful* in *RHD1* is even more misleading in our view:

a suffix meaning “full of,” “characterized by,” (*shameful*; *beautiful*; *careful*; *thoughtful*); “tending to,” “able to” (*wakeful*, *harmful*); “as much as will fill” (*spoonful*).

This entry might lead one to believe that the relationship between “characterized by” and “tending to” is the same as that between “characterized by” and “as much as will fill”, but that surely is not the case.

Although the main purpose of this paper is not to compare American dictionaries with their British counterparts, in order to provide a more complete view of what current practice in English language lexicography is, the same procedure was followed with a British dictionary, *CED3U*. This dictionary gives the following definition for *-ful*:

**-ful suffix.** 1. (*forming adjectives*) full of or characterized by: *painful*; *spiteful*; *restful*. 2. (*forming adjectives*) able or tending to: *helpful*; *useful*. 3. (*forming nouns*) indicating as much as will fill the thing specified: *mouthful*; *spoonful*.

The fact that the adjective- and noun-forming suffixes are both part of the same entry, as was the case for *AHD3* and *RHD1*, is a result of the overall structure of entries in the dictionary, as words pertaining to more than one grammatical category are listed under the same headword. Whereas this policy results in potentially misleading entries in the two American dictionaries, the fact that the two different grammatical categories are clearly identified makes this combined entry much clearer.

*CED3U* also uses “full of” in fewer definitions than *MW10*. Of the 46 words from *MW10* with this descriptor, 36 are given in independent entries, 10 of which contain “full of” and 5 of which contain “characterized by,” which are the two descriptors used in the first sense of the suffix’s definition. *CED3U* lists 6 of these 46 words as run-on entries, and 4 are not in the dictionary (*lifeful*, *proudful*, *sprightful*, and *worthful*).

### 3.2. Treatment of adjectives with the suffix *-like*

*MW10* lists 266 adjectives ending in *-like*, of which only 25 are given in main entries; of these, we eliminated three (*alike*, *look-alike*, and *unlike*) from our analysis because the *-like* ending in these words is not the result of [noun] + *like* = adjective. The entry for *-like* in *MW10* reads as follows:

adjective combining form: resembling or characteristic of <*bell-like*> <*ladylike*>

The high percentage of run-on entries is a consequence of the predictable nature of this element’s semantics. Of the words with main entries, 16 contained either “resembling” or “characteristic of/characterized by”. Although this is hardly surprising given the definition of *-like*, we note that the two concepts are not the same; *bell-like* cannot be used to modify the noun *sound*, although making sound is surely a characteristic of bells (note the wellformedness of *bell-like* as a modifier of form or shape, as in a *bell-like shadow*). The other main entries are varied, with synonymic definitions (e.g. *womanlike*: WOMANLY) or with definitions clearly referring back to the host noun (e.g. *businesslike*: exhibiting qualities believed to be advantageous in business).

The other dictionaries consulted differed slightly. Overall coverage of *-like* words in *AHD3* seems to be less complete, as 11 of the words that warranted main entries in *MW10* were not listed at all. Three of the 12 words with full entries in *AHD3* contained the descriptor “resembling” (*catlike*, *godlike*, *womanlike*). The entry for *-like* itself contains the label *suffix*, as opposed to the *adjective combining form* terminology used in *MW10*. All but one of the words with a main entry in *MW10* is present in *RHD1*<sup>9</sup>, but 8 are given in run-on entries. The formula “resembling” is used only in the definitions of *catlike* and *lifelike*. The entry for *-like* reads

*-like*, a suffixal use of *like*<sup>1</sup> in the formation of adjectives (*childlike*, *lifelike*), sometimes hyphenated.

thus reflecting the lexicographers’ perception that *-like* is still not a bona fide suffix, but rather a suffixal use of an independent word.

## 4. Conclusions

Examination of the dictionary entries in *MW10* for words containing *-ful* and *-like* showed that most words with adjective-forming *-ful* are given in main entries, whereas most words with *-like* are listed as run-on entries, thus confirming our expectation about the correlation between degree of lexicalization and type of entry. This also confirmed our intuitions that *-ful* and *-like* differ from each other with respect to productivity in present-day English. If we



assume that the productive use of a word-forming element (suffix or otherwise) implies that the element's meaning is clearly understood by speakers (cf. Baayen and Renouf 1996), then words formed with these productive elements are likely candidates for run-on entries. As a word's meaning becomes lexicalized and no longer derivable from its morphological structure, it must be explained by a more informative type of definition.

We found that *MW10* used the defining formula "full of" much more than the other dictionaries studied. This may be due to the facts that *MW10* lists senses in historical order, the relationship between the suffix and the independent word is undeniable (cf. the entry for *-ful* in the Oxford English Dictionary), and that lexicographers as a general rule are heavily influenced by the internal composition of a word. We might note, though, that *MW10* often appeals to the formula "full of NOUN" followed by a synonym or other explanation, as in:

<b>scornful</b>	full of scorn; contemptuous.
<b>revengeful</b>	full of or prone to revenge: determined to get even

and wonder if both the formula and the other definition are necessary.

Comparison of *MW10*, *AHD3*, and *RHD1* showed that the dictionaries differed considerably in their descriptions of the suffixes. We feel that *AHD3*'s policy of labelling all word-final elements as *suffixes* is too general; the terminology used in either *MW10* or *RHD1* is more explanatory. All four dictionaries employed run-on entries with *-ful* and *-like* words, which implies that great care should have been taken in defining the suffixes, but differed with respect to the definitions for the suffixes. *AHD3* provides no grammatical category for the resulting word; its entries for these suffixes are thus incomplete and confusing. *RHD1*'s entry for *-like* is, in our opinion, quite useful in that it refers back to the word *like*, but its entry for *-ful* was, as we saw above, rather misleading. There are two keys here: (1) highly lexicalized suffixes require entries with several senses; and (2) entries for affixes must include the grammatical category of the words resulting from the addition of the affix. The reason why *RHD1*'s definition of *-ful* is inadequate, then, is because it groups too many different functions together under a single sense. Of the four dictionaries examined here, *MW10* contains the most explanatory definitions of *-ful* and *-like*.

In future work we hope to continue analyzing more types of affixes in English and other languages in order to make concrete proposals for dictionary design. This paper has shown that morphological structure does bear directly on lexicographic representation, at least for the suffixes and dictionaries examined.

## 5. Notes

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<sup>2</sup> More specific claims about the productivity of these two suffixes could be made by comparing data from two different time periods, or by comparing lexicographic data from one period with corpus data from another, as Baayen and Renouf (1996) did for several suffixes in English. Such comparison goes beyond the scope of this paper, however; for our purposes here, the important point is that the two suffixes currently differ with respect to productivity.

- 3 We have omitted information on etymology.
- 4 We have not included “*chock-full*” among them, as we assume it has been formed by a different process.
- 5 The main word may not be a synonym of the defined word strictly speaking, although we still classify the definition as synonymic as opposed to periphrastic; please see the discussion below.
- 6 The 16 definitions are for the following words: *awful* (2 senses), *baneful*, *beautiful*, *blissful*, *brimful*, *delightful*, *dreadful*, *fearful*, *peaceful*, *thankful*, *useful*, *watchful*, *wistful*, *woeful*, *wonderful*. In every one of these cases except for *brimful*, the lexeme has one or more other senses to which a periphrastic definition has been applied.
- 7 The words are: *blushful*, *boastful*, *conflictful*, *disregardful*, *disrespectful*, *dreamful*, *easeful*, *flavorful*, *flowerful*, *foresightful*, *guileful*, *ireful*, *menseful*, *mirthful*, *mistrustful*, *presageful*, *prestigeeful*, *regretful*, *reproachful*, *resultful*, *self-distrustful*, *stenchful*, *suspenseful*, *toilful* and *restful*.
- 8 We note that *boastful* has a separate entry in *RHD1* and *CED3U* but is a run-on entry in *AHD3*.
- 9 The exception is *folklike*.

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