

Language is *embiggened* by words that don't exist: the case of a circumfix



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The Simpsons' Springfield town motto
"A noble spirit *embiggens*! the smallest man."

ABSTRACT

The paper deals with parasynthetic formations combining the prefix *en-* and the suffix *-en*, which are sometimes regarded as an example of a circumfix in English. The aim is to find more instances of this pattern than the usual three or four mentioned in the literature (*enlighten*, *embolden*, *enliven*, and *embiggen*). After searching three corpora of several billion words without much success, an experiment was made to search the Web for hypothetical verb tokens constructed from monosyllabic adjectives on the pattern provided by the four initial verbs. The search confirmed that more than a hundred such verbs occur on the Web. The discovery of so many *en-Adj-en* verbs unacknowledged in standard reference books is attributed to the effect of big data on the Web; it is assumed that the *en-Adj-en* pattern is the type of process whose function is primarily pragmatic, occasion-specific and discourse-oriented, rather than lexical (i.e. concept labelling). As a result, although the pattern is available for active use, these formations, after having served their purpose, rarely get beyond the nonce-word stage, let alone enter the lexicon.

KEYWORDS

parasynthesis, circumfix, *en-Adj-en* pattern, conjectural forms, Web search experiment

1. PRELIMINARIES

The first part of the paper's title quotes the headline of Bauer's (2008) brief note on the Web. He addresses the question of the status of words we may have seen or heard but which are not listed in the standard reference books, and uses the word *embiggen* as an example. "What we probably want to say in such cases," he concludes, "is that there is such a word, but that it is not found in the kind of English that many of us happen to speak or write, just as "morphosyntactic" is probably not in the kind of English most of the readers of this column will speak or write. At least we can find some traces of 'embiggen'." This seems to imply that the 'existence' of a word is proportional to the extent of its use. As the footnote below explains, the word *embiggen* has been around for quite some time. It is technically described as being formed by parasynthesis: a prefix-suffix combination. The *em-en* added to the adjectival base *big*

1 The word *embiggen* was coined by Dan Greaney in 1996 for "Lisa the Iconoclast", an episode from Season 7 of *The Simpsons* TV Series — https://en.wikipedia.org/wiki/Lisa_the_Iconoclast. See also Peters (2005) *The Simpsons: Embiggening Our Language with Cromulent Words*. *Verbatim: The Language Quarterly* 30/2 (Summer 2005), 1–5.



is sometimes regarded as an example of a circumfix in English. The paper examines the distribution of this presumed circumfix in contemporary English, its frequency of incidence, or rather availability, together with aspects of its use, and attempts to place the findings in a broader context.

2. INTRODUCTION: PARASYNTHESIS AND CIRCUMFIXATION

In English, as in other languages, we find words derived by the combination of a prefix and a suffix. Some of these combinations are due to a serial process (e.g. *decarbonize*), some appear to have been formed by adding prefix and suffix simultaneously (e.g. *decaffeinate*), which is called parasynthesis. “If neither of these affixes is used on its own”, says Bauer (1988b: 28, 325–326), “and the two seem to realize a single morpheme, they are sometimes classed together as a circumfix”; if a circumfix “is taken to be a single affix, it is a discontinuous morph.” In a more recent book, Bauer, Lieber and Plag (2013: 500–503) show that the distinction in English between the three types of multiple hierarchical formations (the prefix is serially attached to an existing suffixed derivative, a suffix is attached to an existing prefixed word, and the possibility of either analysis) and parasynthetic formations (defined as instances of simultaneous prefixation and suffixation, in which neither a prefixed base nor a suffixed base has been attested before the appearance of the suffixed and prefixed form) is not always easy to make. Using the verb *decaffeinate* as an example, they point out that “there was no verb *caffeinate* at the time of creation to which the reversative prefix *de-* might have attached. There was also no potential base *decaffein* for the attachment of the suffix *-ate* [...]. This means that the meaning ‘remove X’ is expressed through both the prefix and the suffix, with the suffix contributing the verbal semantics and the prefix the privative meaning. It might seem that we would be forced to posit a circumfix *de-ate* with that meaning, [...], but both *de-* and *-ate* occur independently elsewhere with the relevant meanings, which is not typical of a circumfix.” They suggest two alternative explanations: the existence of a putative verb *caffeinate* ‘provide (with) caffeine’ subsequently prefixed with the reversative prefix *de-*, and the operation of analogy, i.e. the parasynthetic form is created on the pattern of the many existing derivatives with the same structure (*deacylate*, *decapacitate*, *dechlorinate*, *dehyphenate*). In a subsequent book, Bauer (in Lieber and Štekauer 2014: 127) upholds the rigorous criteria for the recognition of a circumfix, the “type of parasynthesis that seems to gain most attention”: “In convincing instances of parasynthesis, the two parts must make up a single affix, which is usually taken to imply that if we have a word of the form *X-Base-Y* where *X...Y* is the circumfix, there is no semantically related form *X-Base* and not semantically related form *Base-Y*. A more restrictive requirement would be that there must never be any words of form *Y-Base* or *Base-Y* which fulfill the same function as *X-Base-Y*.”

We may ask why and whether it is necessary to insist that the two components *X* and *Y* of a circumfix must not appear on their own in *X-Base* or *Base-Y* and what warrants the claim that if they do it is not “typical of a circumfix” or a convincing instance of parasynthesis. This not to say that the restrictive requirement is purely



arbitrary, but even if some languages do have circumfixes that satisfy this strict requirement, may there not be other languages for which it does not apply in full? Given the tendency of affixes to be multifunctional and have overlapping uses, would not the existence of circumfixes made up only of “dedicated” components be something of a luxury in a language? As a matter of fact, in Czech morphological theory the *X-Base-Y* forms are recognized as circumfixes even when the *Y* is deprepositional or a free-standing reflexive particle. If anything, an example such as *decaffeinat* above evidently creates a problem and shows that insistence on the restriction results in the need to invent alternative interpretations. It is not surprising then that authors are sometimes not consistent in the use of the label circumfix.

Are there such instances in English, i.e. are there circumfixes in English? Lieber (1992: 155) echoes Bauer’s (1988b) complaint that little or no attention has been given to circumfixes (in the generative theory of morphology) but adduces no examples of circumfixation in English. Bauer (1988b: 315) himself tentatively allows that “*Bepatched* may illustrate a rare circumfix in modern English”, as “[t]here is no verb *bepatch* from which *bepatched* could have come.” In his later books quoted above, though, he sounds rather skeptical about the existence of circumfixes in English. Yet, we can read in Bauer and Valera (2015: 77) that “The sample contained one case of other word-formation processes, namely circumfixation, in the word *enlighten*.” This would suggest that the *en/em-en* combination need not be completely excluded from consideration as a circumfix.

Finally, the issue of circumfixes has been recently raised by Stump (2017) in connection with his micromorphology hypothesis which he defends in his paper. He formulates the hypothesis at the affix level (an affix may be morphologically complex, i.e., a combination of other affixes) and the rule level (a rule of affixation may be morphologically complex, i.e., the conflation of other rules of affixation). Referring to Bauer’s (1988a) postulated synaffixes (including both continuous conflated affixes such as *-ic-al* and *-abil-ity* and discontinuous affixes such as circumfixes or complex markings some or all of whose components are nonconcatenative), he poses a question whether a circumfix should be seen as a complex affix whose two parts are discontinuous. And concludes (p. 121) that “[if] so, then conflated affixes are only one kind of complex affix, circumfixes should be seen as complex affixes that result from the composition (rather than the conflation) of a rule of prefixation and a rule of suffixation.” Again, does the assumed composition of a prefix and a suffix and the respective rules resulting in a circumfix necessitate that the two affixes have to appear only as parts of the circumfix?

3. THE PATTERN *EN/EM-BASE-EN*

In spite of, or because of, the unclear theoretical status of the *en/em-en* combination as a circumfix, it is occasionally described as such in some English and other sources (e.g. Byrd and Mintz 2010; Čermák 2008, 2011). At any rate, the pattern *en/em-Base-en* is probably the most quoted, yet understudied case of parasynthesis in English — Byrd and Mintz (2010: 2018) even claim the *en-X-en* is the only circumfix in Eng-



lish — and for this reason it was targeted in this study. The remarkable thing about this pattern is that in both the linguistic literature and dictionaries (e.g. *The Concise Oxford English Dictionary*, 2004), it is exemplified by only three verbs, *enlighten*, *enliven* and *embolden*. The pattern (or the concept of circumfixation, for that matter) is not mentioned in such standard accounts of English word-formation as Adams (1973, 2001), Bauer (1983), Bauer and Huddleston (2002) or Plag (2003). This would suggest that the pattern is in fact non-productive or unavailable (in the sense that it cannot “be used to produce new words as they become necessary”, Bauer 2004: 205). Indeed, Marchand (1969: 163) in his seminal monograph on word-formation mentions verbs derived from adjectives and nouns by the suffix *-en* to which the prefix *en/em-* was added between 1500 and 1650, but notes that most of these verbs have become obsolete. Similarly, Adams (2001: 42) claims that “Two prefixes, native *be-* and foreign *en-*, cognate with *by* and *in*, no longer appear in new formations”. Bauer and Huddleston (2002: 1703) mention the prefix *en/em-* on its own or only in combination with the suffix *-ment*. As I had some doubts about the unavailability of the *en/em-en* pattern in modern English — supported by the attention given to *embiggen* — I conducted a two-pronged, corpus- and Web-based, search to find out whether the pattern is no longer productive.

The form of the pattern on which the study focuses is derived from the three verbs, *enlighten*, *enliven* and *embolden*, which may be regarded as prototypical examples. It includes the prefix *en-* (changing to the allomorph *em-* before bilabial consonants *b*, *m*, *p*), the adjectival base (monosyllabic, with either a closed or an open syllable), and the suffix *-en*; the pattern is class-changing, i.e. results in a verb.

4. DATA SOURCES AND RETRIEVAL METHODS

The data was collected from two sources, corpora and the Web. In the first step, three corpora (see Corpora in References) were searched, the BNC, Araneum Anglicum Maius and the NOW (News of the World) corpus. The corpus query had the form [lemma="e[n,m].+en"&tag="V.+"] for the BNC and the Araneum corpus accessed using the KonText interface of the Czech National Corpus; in the NOW corpus, the individual verb forms of the type *en/em-Base-en+o/-s/-ed/-ing* were looked for and manually processed. The results were disappointing: the BNC (100 million words) contained only the three dictionary-attested verbs, *enlighten*, *enliven* and *embolden* (in this order of frequency), the much larger corpus Araneum (1.2 billion words) contained only two more verbs of this type, *enrichen* and *enhippen*. Finally, NOW, the largest corpus of the three (over 4.4 billion words), added nine more deadjectival verbs (*embiggen*, *endarken*, *enlargen*, *enwisen*, etc.). All in all, the three corpora contain only 14 different deadjectival verb lemmas, including the predictable *enlighten*, *enliven* and *embolden*, and a handful of noun- and verb-based formations (*enfilthen*, *enhearten*, *enscripten*, *entricken*, etc.) that were excluded from the sample.

Given the paucity of hits in the corpora, a different approach to data retrieval was adopted in the next stage: an experiment testing for the presence of hypotheti-



cal verbs on the Web. The advantage of using the Web and Google Search, with all its pitfalls², is that the Web represents the largest, most varied and up-to-date repository of contemporary language. The retrieval experiment proceeded in two steps. The initial idea was that if native speakers are familiar with and use the *en-Adj-en* pattern to create new verbs from (monosyllabic) adjectives at all, then the best way is to start with the most frequent adjectives and see whether hypothetical verbs formed from these adjectives can actually be found on the Web. Using the BNC Frequency List of Adjectives (compiled by Leech, Rayson and Wilson 2001), the first 100 most frequent adjectives were sifted for all monosyllabic ones. The list includes 35 monosyllabic adjectives from which conjectural verb forms on the *en-Adj-en* pattern were created. These hypothetical verbs, or rather their characteristic forms, the *-ed* past tense form/past participle, the 3rd person present tense form or the *ing-*form, were then searched for on the Web (in February 2014). With adjectives starting with *b*, *m* or *p*, both the prefix *en-* and its allomorph *em-* were tested for. To make as sure as possible that the formations originated with native speakers, the search was restricted to the UK and the US domains (it was also assumed that it would be native, rather than non-native, speakers who engage in such creative formation). The search targeted verbs in an utterance, which signals that the formation was used in actual text. As the aim of the search was to ascertain whether someone ever thought of creating such a verb at all, even a single occurrence was counted as a successful hit. By the same token, no count was kept of how many occurrences were found, as the experiment is not about the frequency of occurrence, but the availability of the pattern in current English as such. Instances with dubious context (non-sentential, incoherent, etc.) or not based on an adjective were excluded.

Quite unexpectedly the strategy with the most frequent adjectives as bases proved hugely successful. So much so that the second part of the retrieval experiment went one step further and used a much larger set of monosyllabic adjectives that were chosen randomly this time, i.e. regardless of their frequency ranking. The procedure was the same: the adjectives were turned into hypothetical verbs and googled (February to October, 2017). As with the first set, some of them appeared several times, many only once, but only those used in contemporary language were taken into account, dating typically from the end of the last century up until 2017. Again the frequency of individual formations on the Web was disregarded.

5. DATA ANALYSIS: CORPUS FINDINGS

Although the corpus findings are rather meagre in terms of the number of different verbs of the type sought, they can provide the frequencies of their occurrence

2 The pros and cons of using the Web as corpus have been extensively debated for some time, see, for instance, the 2003 Special Issue on the Web as Corpus, *Computational Linguistics* 29/3, or Hundt, Nesselhauf and Biewer (2007). In spite of critical voices, esp. regarding the use of Google (Kilgarriff 2007), the Web offers invaluable information on rare phenomena (Jurkiewicz-Rohbacher, Kolaković and Hansen 2017).



within the corpus. The corpora included the following lemmas based on the *en-Adj-en* pattern: the BNC (3) — *enlighten*, *enliven*, *embolden*; Araneum (5) — *enlighten*, *enliven*, *embolden*, *enrichen*, *enhippen*; NOW (News of the World; 13) — *enlighten*, *embolden* (variant *enbolden*), *enliven*, *embiggen* (with the variant *enbiggen*), *emplumpen*, *enbrighten* (no *em-* variant), *enfatten*, *endarken*, *enlargen*, *enrichen*, *enrighten*, *enslicken*, *enwissen*. All three corpora shared only the verbs *enlighten*, *enliven*, and *embolden*; two of them, Araneum and NOW, shared one more, *enrichen*. Five of the verbs appeared only once in the 5.7 billion-word corpora. Altogether these text corpora contain 14 lemmas: *embiggen* (*enbiggen*), *embolden* (*enbolden*), *emplumpen*, *enbrighten*, *endarken*, *enfatten*, *enhippen*, *enlargen*, *enlighten*, *enliven*, *enrichen*, *enrighten*, *enslicken*, and *enwissen*. The formal features of the formations, such as the presence of the alternation of initial *en-* to *em-* before bilabials *b*, *m*, *p*, or its absence (*enbolden*, *enbrighten*, *embiggen*) will be discussed later.

Unlike the Web data, the corpora provide frequencies of these lemmas and so can give us an idea of how often they are used. The following overview shows both their total frequencies and their respective frequencies in the BNC, Araneum, and NOW corpora (misspelled instances were discounted):

lemma	Total	BNC/Araneum/NOW
<i>enlighten</i>	29677	242/4791/24644
<i>embolden</i>	11986	53/1122/10811
<i>enliven</i>	5010	182/1256/3572
<i>embiggen</i>	158	—/—/158
<i>enrichen</i>	25	—/6/19
<i>enlargen</i>	10	—/—/10
<i>enbrighten</i>	6	—/—/6
<i>endarken</i>	5	—/—/5
<i>enbolden</i>	4	—/—/4
<i>enwissen</i>	2	—/—/2
<i>emplumpen</i>	1	—/—/1
<i>enfatten</i>	1	—/—/1
<i>enhippen</i>	1	—/1/—
<i>enrighten</i>	1	—/—/1
<i>enslicken</i>	1	—/—/1

TABLE 1. Summary of the corpus findings

Table 1 makes it clear why only the first three of the fourteen *en-Adj-en* lemmas identified in the corpora are found in standard dictionaries and can be safely considered part of the lexicon (i.e. listemes). Given the total size of the corpora (over 5.7 billion words), the remaining lemmas are clearly marginal and ephemeral (with the possible exception of *embiggen* which may have enjoyed, or perhaps still does, something of a fashion as Bauer's note and Peters' article suggest), and can be considered nonce words.

All this would suggest that for all practical purposes the *en-Adj-en* pattern is indeed non-productive in current English as generally assumed. To make sure that this is really the case, another attempt was made using a two-part Web experiment.



6. DATA ANALYSIS: WEB EXPERIMENT FINDINGS

The first part of the experiment started with identifying all monosyllabic adjectives in the first 100 most frequent adjectives from the list compiled by Leech, Rayson, and Wilson (2001). These monosyllabic adjectives could be potential bases for *en-Adj-en* verbs. The batch of one hundred most frequent adjectives included the following 35 monosyllabic ‘seed’ adjectives (in order of frequency):

good, **new**, old, great, high, small, large, young, right, big, late, full, **far**, low, bad, **main**, sure, **clear**, black, white, **free**, short, strong, **true**, hard, poor, wide, close, **fine**, wrong, nice, French, red, **prime**, dead

TABLE 2. The list of 35 monosyllabic seed adjectives selected from the first 100 most frequent adjectives in the BNC

Next, 35 hypothetical verbs were formed from these seed adjectives on the *en-Adj-en* pattern and searched for on the Web. The search revealed that 27 verb forms of the 35 hypothetical verbs were indeed found, that is, only 8 of them (marked in bold in the list above) were not attested on the Web. In other words, more than 3/4 (77 per cent) of the hypothetical verbs appeared on the Web at least once (sometimes more than once). As the adjectives forming unattested verbs are spread throughout the whole set of 35, presumably frequency played no part in this. Here are (unedited) examples of all the 27 verbs in context:

It’s well-known that a picture of a thousand words maketh a battle report *en-goodened*. / *Enoldened* now, Sansa began to plan, to assimilate. / Today our insufficiently *engreatened* nation got its answer / Most pre-workout products are made for lifters. Their purposes wary between/are often combined of the following: *en-highened* mental focus (this is something many of them do), ... / Our institutional branding is still there but centered and *ensmallened*. / *Enlargened* Top View of A1N Single Layer Defect. / In flashback, we see a digitally *enyoungened* Kurt Russell head over heels in love with Peter’s mom. / I hope you’ll find this information worth your time to read and get *enrightened* in the process. / Well, another week full of comics is already dawned (even if slightly *enlatened* from a trip to grandma’s) / I am *enfullened* with jealousy. / I suspect Harmless deliberately *enlowened* her posting level after the hiatus in order to attract voters / It was further *embad-dened* by the fact that the defense counsel he was talking about hadn’t even been in the same courtroom. / The continuous efforts *ensurenened* a significant progress in linking broadcasters with the NDMA in Thailand, / Abgott, Xerath and Phyrexia are among the bands that will perform at the *Enblackened* 2010 festival held at the



Camden Underworld on Saturday May 15th 2010 / when I woke up this morning the world had been *enwhitened*. / The page seems to be *enshortened* / It became a kind of religious myth *enstrongened* after the fall of communism / Yea, and they drink, for more *enhardened* joy, Man's blood for wine, / there is a kind of universal cultural impoverishment and their lives are *empooened* by it. / we also *enwidened* our whole product range / The wall is viewed from so close-up, so it is almost as if one is being *enclosed* and smashed by the wall. / And Saje, dude, stop sitting so *enwrongened*. You'll end up hurting yourself. / Whatever miraculous *ennicening* and *ensmartening* process has been utilized here should be applied to the entire world. / the pseudonym she uses in 'No Future for You' is just a posher, slightly *enFrenched* version of / I'm not convinced that „*enreddened*“ will catch on ... / I killed most of them, but I can't seem to figure out how to kill the kamakazi guys without becoming *endeaden*ed myself.

Verb forms not confirmed on the Web come from the adjectives *clear, far, fine, free, main, new, prime, and true*, i.e. verbs like **enclare*n, **enfaren*, **enfreen*, **ennewen*, **en-truen*, etc. The possible reasons for their non-occurrence will be discussed later.

In view of the encouraging results, the second part of the retrieval experiment sought to increase the sample of verbs to be searched for and at the same time avoid the potential effect of selecting adjectives by frequency. For this reason, two and a half times more seed adjectives were chosen, this time randomly without considering their (corpus) frequencies. This second set (see Table 3) thus included the following 91 seed adjectives from which hypothetical verbs were formed and looked for on the Web, using the same procedure as in the first part:

*bald, bare, bland, blank, bleak, blind, blue, blunt, brave, brief, broad, broke, brown, coarse, cold, cool, **crass**, crisp, crude, cute, damp, deaf, deep, dense, dim, drunk, dull, fair, fast, fierce, fit, flat, fresh, glad, gold, grim, gross, gruff, harsh, hot, huge, **just**, kind, lewd, limp, long, loud, mad, meek, mild, **near**, neat, **odd**, pale, posh, proud, **queer**, quick, **rash, raw**, round, rude, safe, **scant**, sharp, sick, sleek, slight, slim, smart, smooth, soft, sound, sparse, steep, **stern**, stiff, **still**, straight, strange, stuck, sweet, swift, tall, thick, tight, vague, warm, weird, wet, wild*

TABLE 3. The list of 91 monosyllabic seed adjectives randomly chosen

This time the search confirmed the occurrence of 81 hypothetical verbs (89 per cent) based on the adjectives. It should be noted that as the choice of the adjectives was haphazard, the actual figures could easily be different with a different set of adjectives, which, however, does not detract from the fact that the number of attested verbs is conspicuously high. The verbs which were not found on the Web derive from these 10 adjectives: *crass, just, near, odd, queer, rash, raw, scant, stern, still* (again highlighted in the above list). In order to illustrate the variety of adjectives appearing in this kind of formation, a sample of verbs based on different types of adjectives is presented here:

I certainly prefer to be smug and merry, but I was *enbleakened* by hormones and self-pity. / are you *enblinded* by your fury, only wishing to see someone who

defeats you as having an unfair advantage, to ease the anger of losing? / The sky is *enbluened* with a gobbet of beetle wings, and there are no owl scats to distract you from the incessant hobbling of tiny gnats; I have been *enbluened* ! / I don't object to brevity, but the ideas being *enbriefened* have to have at least a little merit to start with. / The microstructure will be *encoarsened* even at initiation of its solidification, / You fingering yourself in your dirty, spunk *encrispened* bed probably only burns like 50 calories. / Once again the observant techbeat watcher finds his or her lower-torso garments *endampened* by fear, as news emerges that heavyweight US military nerds / Just like a sand-*endensened* flow, you swept into my world./ ever since his attack upon me in Waynesburg, where he was backed by big John King and his host of friends, he has been getting more *enfiercened*, ... / Oh here's a couple of interview clips where they (including a partially re-*enfitted* Paul) talk about The Saturdays / They preferred to record their automatic writing in perfectly correct syntax; the world, not the sentence, was in need of an *enfreshened* vision. / Photos and videos with the hashtag '*engoldened*' on Instagram. / ... the week engrimmens further. / For it is of the *engrossened* ether of which this ethereal planet is composed that earth is suffused. / As well as dumfounded, I was also instantly *engruffened*, but I swallowed it down, / I'm *enkindening* and gentling in my decline. ;-). / Whether she is for lewd purposes or not, like the devils we are, she will be *enlewdened*. / Stratford hurries to the shell trolley, *enmeekened*. / Fla has been *enposhened* for de telly :-). / Safety is in danger, my friends, and only our freedom can keep it *ensafened* from further endangerment. / I'm *ensickened* of this, honestly... I'm going to fag all of that thing's posts / my brain has become *ensmoothened* after reading this nonsense / Perhaps it portrays the *enstrangened* American society of the late 80s and early 90s. / Allies touched by pulses of Song of Celerity are *enswiftened* by her music. / Surrounding them were leafy bowers and *enthickening* moist vines that crept like reptiles along the ground / Here's my situation (slightly *envagued* to protect the innocent): / Enriched and *Enwettened* by Their Presence. / Endowed with psychological characteristics and the ability to experience emotions, strange and *enwildened* beasts with human heads wander the indefinite

It is important to stress that although most, if not all, of these formations are very unusual and surprising to many native speakers when asked to comment on them, they are not difficult to understand and in context their use makes sense. The illustrative sentences are sometimes long, sometimes short, but they are generally sufficient to allow drawing inferences about the stylistic environment and the stylistic value of these verbs.

7. MERGING THE WEB AND CORPUS FINDINGS

When the two Web samples, verbs from most frequent monosyllabic adjectives and verbs from randomly selected adjectives, are put together, the most impressive finding is the sheer quantity of *en-Adj-en* verb forms that can be found on the Web attest-



ing to the overwhelming proportion of successful adjectives among the monosyllabic group that can be used as verb bases. The overall figures are summarized in Table 4:

	frequency sample	random sample	total	%
seed adjectives	35	91	126	100.0
attested verbs	27	81	108	85.7
unattested verbs	8	10	18	14.3

TABLE 4. Summary of the findings in the two Web samples

The total of seed adjectives used in the experiment is 126 (there is no readily available list of monosyllabic adjectives in English to test for other eligible ones in the pattern). Of the hypothetical verbs based on these adjectives, only 18 (14.3 per cent) were not found, the remaining 108 (85.7 per cent) are documented on the Web in one way or another and are likely to be accessed any time. The following list (see Table 5) gives the total of monosyllabic seed adjectives that were put to test in the two parts of the retrieval experiment and at the same time shows the great variety of the 108 adjectives that are the bases of the attested *en-Adj-en* verbs (adjectives whose hypothetical verbs were not found are highlighted in bold):

bad, bald, bare, big, black, bland, blank, bleak, blind, blue, blunt, brave, brief, broad, broke, brown, **clear**, close, coarse, cold, cool, **crass**, crisp, crude, cute, damp, dead, deaf, deep, dense, dim, drunk, dull, fair, **far**, fast, fierce, **fine**, fit, flat, **free**, french, fresh, full, good, glad, gold, great, grim, gross, gruff, hard, harsh, high, hot, huge, **just**, kind, large, late, lewd, limp, long, loud, low, mad, **main**, meek, mild, **near**, neat, **new**, nice, **odd**, old, pale, poor, posh, **prime**, proud, **queer**, quick, **rash**, **raw**, red, right, round, rude, safe, **scant**, sharp, short, sick, sleek, slight, slim, small, smart, smooth, soft, sound, sparse, steep, **stern**, stiff, **still**, straight, strange, strong, stuck, sure, sweet, swift, tall, thick, tight, **true**, vague, warm, weird, wet, white, wide, wild, wrong, young

TABLE 5. The complete list of 126 monosyllabic seed adjectives used as the bases of hypothetical verb forms of which 108 were acquired on the Web, and only 18 (in bold) were not found

Finally, when the 14 *en-Adj-en* verbs found in the three corpora (including the three initial verbs, *enlighten*, *embolden*, *enliven*) are added to the list of 108 web-tested verbs, we arrive at the number of 122 different verbs based on the *en-Adj-en* pattern that have been spontaneously created and used by (presumably) native speakers within the last three decades on one or several occasions. This certainly puts a new perspective on the speculations whether the *en-Adj-en* pattern is, or is not, available for producing new words.

8. PROPERTIES OF EN-ADJ-EN VERBS

It is not unreasonable to suppose that because of the high frequency of the verbs *enlighten*, *embolden* and *enliven*, they may have played a significant role as models



in the apparent perseverance of the pattern in English. Accordingly, new *en-Adj-en* verbs can be expected to originate in adjectives similar to *light*, *bold* and *live*, i.e. adjectives that (a) are monosyllabic, (b) begin and end in a consonant, and (c) have a diphthong vowel in the middle. Actually, a look at the list of adjectives whose hypothetical verbs were found on the Web and the eighteen seed adjectives that did not yield an *en-Adj-en* verb (*clear*, *crass*, *far*, *fine*, *free*, *just*, *main*, *near*, *new*, *odd*, *prime*, *queer*, *rash*, *raw*, *scant*, *stern*, *still*, *true*) gives us a more complex picture of the tendencies and preferences that appear to determine which adjectives are or are not used as bases for *en-Adj-en* verbs.

Starting with the first feature, monosyllabicity, it was, for interest's sake, put to test, but attempts to find verbs based on disyllabic adjectives failed, presumably because the length of such verbs, especially in combination with inflections and consonant clusters, make the pronunciation awkward for English speakers (cf. **enlittl-ened*). Next, the fact that all but two successful seed adjectives begin with a consonant may simply follow from the rarity of monosyllabic adjectives starting with a vowel (*enodden*, *enolden*, but **enapten*). On the other hand, the adjectives may end not only in a consonant (or a cluster of consonants, *crisp*, *damp*, *round*), but occasionally also in a pronounced vowel (*blue*, *low*, *high*). The final consonant is sometimes followed by a mute vowel (*rude*, *large*). The vowel in the middle need not be a diphthong (*light*, *live*, *bold*), it can also be short (*fit*, *hot*) or long (*fast*, *sure*, *tall*). The vowel may be represented by a single grapheme or a di-, tri- or tetragraph (*fat*, *wild*, *meeek*, *cool*, *fierce*, *straight*).

The quality of the final sound in particular seems to play a role in the combinability of the adjective with the suffix. The first thing to notice is that eight of the eighteen adjectives with unattested hypothetical verbs end in a pronounced vowel, *free*, *new*, *raw*, *true*, and (at least in some varieties of English) *clear*, *far*, *near*, and *queer*. This suggests that this type of adjective is less preferred with the *en-Adj-en* pattern. Exactly why it should be so is difficult to say — it could be due, perhaps, to awkward pronunciation, euphonic reasons, or to the fact that the affixation obscures the adjective and makes the formation less transparent and recognizable (cf. **enfreen*, **entrueen*). However, there are exceptions to this tendency, as the above examples with *enhighen*, *enbluen* show, and similarly verbs such as *empooen* and *embaren* are also documented (*the US is too large and rich to be empooened too much / Don't be embared by shabby, shalty car ...*).

On the other hand, even adjectives ending in a (pronounced) consonant may be rejected as bases (*crass*). Especially in adjectives ending in *n* or *m*, i.e., *fine*, *main*, and *prime*, pronunciation and euphony seem to be the reason for the non-occurrence of the respective verbs. Forms like **enfinened*, **emprimened* and **enmainened* (or **emmainened*) do not obtain presumably because they are cumbersome and not very pleasing to ear and eye alike (the shorter verb *enmain* does exist, though). Yet even here we can find counterexamples with *brown*, *dim*, *warm* and *wrong*: *From the claw-worn pinetree bark, Where he climbed as dusk enbrowned Waiting us who loitered round. / Not because of any phony Italian's blessing. But because, I am endimmed by my brain damage. / Hardly any scientists believe for a fact that man has enwarmed the earth / a 10 year old reading that would be enwrongened for life*. All in all, as might be expected we are dealing with tendencies rather than with laws.



Whether pronunciation is a factor in the acceptability of *en-Adj-en* verbs depends on to what extent these verbs are actually intended to be read aloud. One indication that *en-Adj-en* formations might primarily belong to written language is the conspicuous vacillation in allomorphy, i.e. the assimilation of the final *n* in the prefix *en-*, with verbs based on adjectives starting with *b* and *m*, cf. *embiggen/enbiggen*, *embolden/enbolden*, *embalden/enbalden*, *embluen/enbluen*, *embroaden/enbroaden*, *emmadden/enmadden* (but only *enmeecken*). If these formations are hardly ever read aloud (and silent reading may have different effects), then there would be little pressure to assimilate. (However, with adjectives beginning with *p*, only the assimilated form of the prefix seems to occur, *empooeren*, *empalén*.) Alternatively, the unassimilated forms of new verbs, such as *enbadden*, *enblacken*, *enbrighten*, *enbluen*, could be explained as a transitory stage preceding bilabialization (depending on the frequency of use), while the occurrence of an unassimilated variant *enbolden* of the established *embolden* could be an indication that it was created ad hoc, rather than retrieved from the lexicon (where *embolden* should already be listed). While assimilation raises questions, the spelling of *en-Adj-en* verbs appears to follow the standard rules: the final single consonant before a single short vowel is doubled to keep the syllable closed (*embiggen*, *enflatten*, *enhotten*, *enredden*, *endimmen*, *enslimmen*, etc.) and the final *e* of the adjective is dropped (*envaguen*, *ensparsen*, *enlargen*, *enstrangen*, etc.).

The combinatory restrictions may be caused not only by formal features of the adjectives, ease of pronunciation and euphonic considerations, but can also be related to meaning. This brings us to the semantics of *en-Adj-en* verbs. They are generally causative and perfective, meaning ‘to bring into the condition of’ (cf. COED 2004), or ‘make sth (adj)’, and they tend to be used in the passive or as a participle (both attributive and predicative). The preferable kind of adjective in this pattern appears to be one which can be meaningfully employed in causative constructions. On rare occasions, these verbs can be interpreted as intransitive, implying a change of state without causation (*Where he climbed as dusk enbrowned*). However, the same causative meaning can be also expressed by a verb based on the same adjective using a single affix (*enlarge*, *ensure*, *broaden*, *sharpen*, *shorten*, *sicken*, etc.), or a verb converted from the adjective (*smooth*, *warm*), or by a different verb altogether (*impoverish*, *pauperize* instead of *empooeren*).

The reason why there seems to be little, or no blocking in operation to prevent the formation of *en-Adj-en* verbs is most probably the fact that as with synonyms the parallel existence is acceptable if these verbs have markedly different stylistic values and connotations. Indeed, unlike the ‘existing’ words such as *flatten*, *deafen*, *deepen*, *dull*, or *wet*, most, if not all, *en-Adj-en* verbs appear to be stylistically highly marked (as the examples and also the users’ metalinguistic comments below indicate). Their use ranges from elevated style (serious, lofty, archaic, poetic), bordering on pomposity, to mock seriousness, i.e. they are often exploited for the purposes of facetiousness, irony or parody.

Although transpositional in nature (that is, recategorizing adjectives into verbs) and so seemingly filling a gap, most of the *en-Adj-en* formations are strictly speaking semantically redundant (their main purpose appears to be stylistic or pragmatic, draw attention, suggest formality, ridicule, etc.), as they have standard alternatives

or paraphrases. Only a few may, perhaps, be seen as extending the vocabulary and so actually needed (esp. when a verb corresponding to the adjective is missing, such as *enbleaken*, *enswiften*, *envaguen*, *enweirden*, etc., though often the alternative form *Adj-en* can be found on the Web, but not in a dictionary).

All these features can be used to formulate a relatively detailed lexical, or word-formation, rule for this pattern, of the type suggested by Leech (1990: 216) or Plag (2003: 30–37). In other words, the pattern appears to be rule-governed in principle, and the restrictions on its use can be to a large degree specified phonologically, orthographically, grammatically, semantically and stylistically. The most important finding remains the number of different *en-Adj-en* verbs appearing on the Web. The 108 attested verbs (i.e. 85.7 per cent out of the 126 hypothetical verbs based on mostly randomly chosen seed adjectives) suggest that the pattern is currently in use and part of the linguistic competence of many native speakers who resort to it to create nonce words to meet their communicative goals.

9. THE USERS' PERSPECTIVE

In addition to providing instances of these verbs in context, the Web is also valuable in that it supplies metalinguistic comments and intuitions voiced by native speakers, evidently non-linguists, who explicitly explain and illustrate the purpose of this pattern and its applicability. Thus, in a Facebook exchange dated January 4, 2012 (<https://cs-cz.facebook.com/Quirks-of-Clint-296963433678330/?fref=nf>), “Quirks of Clints” has this to say:

“To add excitement to banal or mundane words, it is acceptable to prefix the root of a word with “en” and suffix the word with “en”, “ed”, or for extra effect “ened”. For example: Hungry turns to Enhungered. Sleepy turns to Ensleepened, and so forth.”

And, in the same exchange, this explanation is followed by that of another participant:

“Example: I am being enstalkened by some encreepened loser on CI that enposts pictures of himself with his endirty laundry and engrossened toilet in the background.”

These posts show several things. The pattern is indeed used as a stylistic means. “To add excitement to banal and mundane words” means that these words are transformed not to label a new concept, but to make them fit with the intended stylistic tenor of the utterance (whether serious or ironic, facetious, and evaluative). The pattern is used not only with adjectives (*engrossened*), but also with other word classes, nouns (*enhungered*) and verbs (*enstalkened*). We may notice that the commenters are not really clear about what the base is: they start with an adjective (“Hungry/Sleepy turns into”), but the actual derivation is noun- or verb-based (*enhungered*, *ensleepened*). Similarly “*encreepened loser*” is a fancy variation of the adjective-noun phrase



“creepy loser”, but the base of the participle is non-adjectival. The same stylistic effect for which the *en-en* combination is used is also attributed by them to the single prefix *en-* (but not to the suffix *-en* which is presumably only recategorizing). This supports the interpretation that the *en-Base(-en)* pattern is a stylistic device (in fact, the first commenter includes even *en-Base-ed* and *en-Base-ened*).

Several other revealing metalinguistic comments on the Web show that the speakers are well aware of the innovative nature of these formations: “*if ensickenened isn’t a word, i fucking claim it!*” or “*izzat a word?*” Sometimes the formations are put into inverted commas (*I thought the Monitor 1’s were “ensmoothened” in a pleasant way*).

10. CONCLUSION

At the beginning of the study there were only four *en-Adj-en* verbs, *enlighten*, *embolden*, *enliven*, and *embiggen*, on which the investigation could be based. The search of the BNC found only the first three of the verbs and confirmed the inactiveness of the pattern. The situation did not improve very much when another two corpora were consulted, Araneum and NOW. Although they contain billions of words, the search produced only 10 more words in addition to the four mentioned (of which *embiggen* appeared only 158 times). Half of the ten new words occurred just once, and the most frequent among the rest, *enrichen*, only 25 times. The investigation took an unexpected turn when a different approach was taken. Using the three established verbs as a model and drawing on a list of 126 monosyllabic ‘seed’ adjectives (the first batch chosen by frequency, the second at random), a sample of 126 hypothetical verbs based on the ‘seed’ adjectives was constructed. Search for these verbs on the Web showed that 108 (85.7 per cent) of them were in fact used by speakers relatively recently. These findings present something of a paradox: on the one hand there are just three *en-Adj-en* verbs frequent enough to merit inclusion in standard dictionaries, on the other hand there are 108 other verbs appearing on the Web and 10 in the corpora, totalling 118 verbs, which is not a negligible number. In fact, it seems that the list can be expanded almost at will, if the formal, semantic, etc., criteria for the adjective are met. While finishing the text, I checked three more adjectives on the Web out of curiosity and found three more examples: *chief* — “*before he wipes his eyes and approaches the elder to be enchiefened?*”; *pink* — “*I grabbed my enpinkened glass and lifted it.*”; *gay* — “*All of the colours have been engayened. It is now really difficult to tell which topics contain new posts.*” We may speculate that these findings are attributable to three factors.

1. Status of the pattern. It can be reasonably assumed that the hundred-odd *en-Adj-en* verb types discovered on the Web, used by several hundred speakers (apparently with clear intuitions about the pattern and its effects), show that the pattern is not defunct. What is more, it is difficult to imagine that the pattern is restricted only to this tiny (privileged, creative?) subset of English speakers. If, as Bauer (2004: 91–92) says, “Availability is a yes/no question: either a morphological process is available or it is not”, then the *en-Base-en* pattern is clearly productive, available to native speakers who use it to form new verbs which, however, seldom progress from nonce formations to the next stages of institutionalization and lexicalization. This avail-

ability certainly contradicts Marchand's implication that verbs formed by the prefix *en-* and the suffix *-en* have become obsolete after the mid-17th century. Although the pattern has all the markings of a rule-governed one, it appears to hover between productivity (availability) and creativity and, in spite of their number, it is difficult to say (cf. Bauer 2004: 91–92) whether the *en-Adj-en* verbs found on the Web are rule-governed or analogical formations.

2. Function of the pattern. Despite the fact that the *en-Adj-en* pattern, as was pointed out above, is technically class-changing, i.e. it derives a verb from an adjective, both the contexts in which these formations are used and the users' metalinguistic glosses distinctly suggest that the primary reason why these verbs are created and used are pragmatic. They do not fill a syntactic gap so much as they convey a certain attitude and stylistic level. The *en-Base-en* pattern is certainly not the only one the use of which seems to be motivated by pragmatic reasons. In fact, the issue of motivation raises an intriguing question of the function of word-formation processes in general. Plag (2003: 117), when discussing name truncations (and clippings), notes that for some researchers, e.g., Dressler (2000), the fact that truncation involves semantic and pragmatic modulation, rather than adding a new meaning, throws its status of a word-formation process proper into doubt. Plag, on the other hand, distinguishes three major functions of word-formation. He says that, in addition to the labelling or referential function and that of syntactic recategorization, speakers coin words to express an attitude. This recognition of attitudinal or pragmatic function is reminiscent of the distinction made by Zwicky and Pullum (1987) between plain morphology and expressive morphology. The *en-Adj-en* pattern seems to be a case in point. The *en-Adj-en* verbs attested on the Web differ from their standard equivalents (one-word or periphrastic) in that they do not amplify, but merely modulate the meaning (notice, though, the addition of perfective meaning), very much like clippings pragmatically modulate their bases (i.e., "indicate an attitude of familiarity on the part of the user, either towards the object denoted, or to the audience," Adams 1973: 135).

3. The effect of big data. While corpora of several billion words extended the initial list of four *en-Adj-en* verbs by only 10 verbs (half of which occurred just once), the search of the Web, accessing the "big data", made all the difference. The pattern which, judging by just the four instances available at the beginning, was no longer in active use has suddenly made a surprise comeback and non-existent words have sprung into existence. So, with the help of big data, i.e. huge masses of information on the Web, even seemingly non-productive patterns can be shown to exist in contemporary English, producing a steady stream of new, albeit extremely low frequency, words. In effect, big data, as in other areas of language research, changes the perspective on what goes on in language. If anything, the case of the *en-Base-en* pattern suggests that there may be other word-formation processes active on the periphery and that speakers probably have access to a wider range of word-formation patterns than are described in the standard accounts of English word-formation.

However, there still remains the problem of accounting for the contrast between the number of *en-Adj-en* verbs discovered on the Web thanks to big data and the marked absence of item-familiar words among them, which may not be just a matter of frequency. Let us assume that depending on their function in language there





are broadly speaking two types of word-formation processes. The role of the first type of processes is to extend and innovate the lexicon by naming new concepts and by recategorizing existing word classes. They will tend to produce formations, typically rule-governed, that will eventually become permanent additions to the lexicon if the circumstances are right. The other type of processes, occupying the creative end of the spectrum, have a different purpose; their role is to contribute to discourse production by introducing pragmatic information, attitudes, evaluative aspects, by setting the stylistic tone of the utterance, or by contributing to the cohesiveness of the text (see Hohenhaus 2007). Unlike the first type they will typically produce evanescent formations as required by the particular situation for which there is no need to be permanently stored. Nonce formations with discourse and other functions (e.g. textual deixis, pronominalising, dummy-compounding, etc.) are discussed, for instance, by Hohenhaus (2007, 2015). The two categories of word-formation processes (lexicon-expanding and discourse-oriented) will not be mutually exclusive, and despite the tendency of patterns to belong to one rather than the other, the same pattern may produce formations with different kinds of function. On this interpretation, the *en-Adj-en* pattern belongs to the latter type and can be activated by speakers whenever the occasion requires it but the fanciful nonce words will not be circulated and become generally accepted (with rare exceptions, such as *embiggen*).

To sum up, the paper starts by exploring the English circumfix *en-Base-en* (under more relaxed criteria) which has received some attention but was illustrated by only four examples. Then it proceeds from a corpus search for more instances of the pattern to web search queries that extracted over a hundred of these formations. To explain the existence of so many *en-Adj-en* verbs unknown to standard reference books it is hypothesised that *en-Adj-en* formations belong to the type that arises as a function of text and disappears with the text in which they serve as stylistic markers; their role is to contribute to the discourse and not to the lexicon. As such they are unlikely to gain much currency, they will not become institutionalised (unless they enjoy a short period of vogue, such as *to embiggen* popularized by a TV series) and will not make it into dictionaries (for a similar position on nonce-formations and their lexicalizability see Hohenhaus 1998). Because of their passing nature they will be discovered only through the use of big data on the Web. On the whole, the results of Web search confirm that the description of many word-formation processes, their range and use in current English, may profit considerably from systematic exploitation of the available Web resources.

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