

Structural ambiguity in English word-formation

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1. Introduction

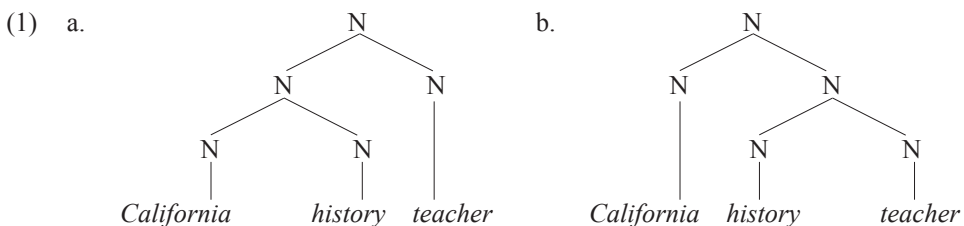
It is well known that a number of phrase and sentence types in English may give rise to cases of structural ambiguity. The phenomenon is exemplified by the following sentences: *The professor's appointment was shocking, I found her an entertaining partner, The chicken is ready to eat*, etc. Structural ambiguity of this sort (also called 'grammatical ambiguity' or 'constructional homonymy') has been defined simply as "[a]mbiguity explained by differences in syntax" (Matthews 2005: 151). In a more elaborate formulation, the definition might read as follows: "An utterance is structurally ambiguous when it can yield more than one syntactic interpretation or when it implies more than one syntactic relationship between constituents within a structure" (Oaks 2010: 15). These definitions imply that a structurally ambiguous sentence is to be coupled with two (or more) alternative representations at a deeper level of analysis, which account for the different semantics and paraphrases. A special case of ambiguous structures within syntax are the so called "garden path sentences" like, for instance, *The man who whistles tunes pianos, Since John always walks a mile seems like a short distance to him*. But it can be argued that sentences of this type "do not allow more than one structural interpretation when taken in their entirety, even though the initial parts of their sentences do" (Oaks 2010: 19).

It must be emphasized, however, that the phenomenon in question is not limited to syntactic categories (phrases, sentences). Some patterns of English word-formation, notably within compounding and affixation, comprise complex lexemes that are also characterized by structural ambiguity. It is the aim of this article to bring together and to analyze some relevant examples of structural ambiguity in English morphology. Section 2 presents a brief overview of structurally ambiguous compounds. This topic has been addressed in the literature on several previous occasions. The parallel question of structurally ambiguous affixal derivatives does not appear to have met with comparable interest. Therefore, in Section 3 we examine the latter problem in some

detail. Special emphasis will be laid here on ‘derivational homonyms’ – a category that hitherto seems to have escaped the attention of students of lexical relations in English. Section 4 concludes the discussion.

2. Structural ambiguity in English compounds

Textbooks on morphology often discuss parallel mechanisms of structural ambiguity that are a feature of English compounds.¹ For example, the following nominal compounds are structurally ambiguous: *California history teacher*, *World Trade Center*, *student film society*, etc. (Fromkin 2000: 68; Spencer 1991: 310). Accordingly, a complex naming unit like *California history teacher* allows for two alternative interpretations paraphrasable as (a) ‘a teacher of California history’ or (b) ‘a history teacher who happens to be from California’.² The two interpretations correspond, respectively, to the following tree-diagram representations (Fromkin 2000: 69):

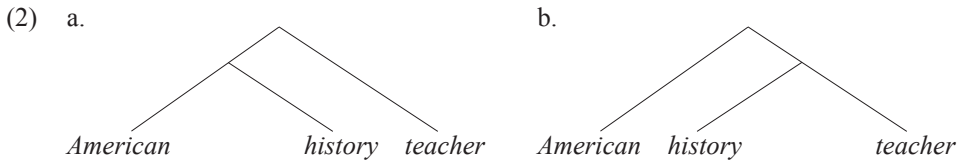


One might think that compounding, just like sentence formation, is not impervious to structural ambiguity because it shares a number of properties with syntax. Indeed, when we compare the abovementioned example with its close analogue, namely *American history teacher*, the latter expression exhibits the same kind of ambiguity: (a) ‘a history teacher who is American’ vs. (b) ‘a teacher of American history’ (Fabb 1998: 72), even though its first constituent *American* is, strictly speaking, an attributive adjective – or

¹ Of course, English compounds and noun-centered compounds in particular may be ‘ambiguous’, out of context, in the sense of having unpredictable semantics, which is due to a variety of reasons and not necessarily because of their inherent structural ambiguity. This is evidenced very well by new compounds (Bauer and Huddleston 2002: 1647) or (compound) novel naming units (see e.g. Štekauer 2005).

² It is arguable that the semantic contrast between the two readings can be marked phonologically, e.g. by different stress contours and/or pauses; cf. Fabb (1998: 79): “The stress pattern of compounds may indicate the presence of hierarchical structure inside the compound.” Moreover, Spencer (1991: 320) points out that, in the case of English compounds, stress “can even disambiguate potentially ambiguous strings”.

a (denominal) relational adjective, from the viewpoint of word-formation. Accordingly, there are the following two simplified hierarchical representations (Fabb 1998: 72):



Quite apart from the ambiguity evidenced here, there is a major structural problem concerning the representation in (2a). Is the nonhead element *American history* there a phrase or a compound? According to Fabb (1998: 72), it is a compound (within a compound). However, alternative interpretations of such cases have been put forward in the literature as well. For instance, Carstairs-McCarthy (2005: 37) points out that, because of its stress pattern, *American history* as in our example (2a) “looks like a phrase. We thus appear to have a phrase inside a compound word, that is a syntactic unit inside a morphological one.” Accordingly, both structural options diagrammed schematically in (2) receive the following representations in terms of labeled brackets (cf. Carstairs-McCarthy 2005: 37):

- (3) a. [[American_A history_N]_N, teacher_{N,N}]_N b. [American_A [history_N teacher_{N,N}]_N]_N
 ‘teacher of American history’ ‘American teacher of history’

As further pointed out in Carstairs-McCarthy (2005: 37), “it seems as if only lexicalized or institutionalized phrases (clichés) can appear freely inside compounds”. *American history teacher* is contrasted with superficially analogous but unacceptable expressions like **glorious history teacher* ‘teacher of glorious history’ or **dull history teacher* ‘teacher of dull history’. An alternative analysis of the case under discussion sketched by Carstairs-McCarthy is based on the assumption that *American history teacher* (and other such expressions) has only one structure, consistent with (3b), i.e. the structure of a phrase, coupled with two possible semantic interpretations (for details, see Carstairs-McCarthy 2002: 81; 2005: 38–39).

To sum up, expressions like *California history teacher* and *American history teacher* demonstrate that the line separating compounds from phrases is sometimes hard to draw in English (see also Berg 2011, Giegerich, 2005, 2009). The distinction between compounds and phrases is also quite elusive in universal terms: “it is frequently difficult to determine whether a sequence of two nouns is a morphological unit or a syntactic one, for instance” (Bauer 2010: 138). Moreover, Carstairs-McCarthy, following Sadock (1998), hypothesizes that “[p]erhaps compounding deserves to be regarded as a third pattern of grammatical organization, distinct from both syntax and morphology” (Carstairs-McCarthy 2005: 35).

Alternatively, one can speak here of the ‘lexicon-syntax continuum’: “Indeed, the demarcation of compounds and phrases has been a major issue in theoretical linguistics in the last decades and in particular within the Lexical Morphology tradition” (Masini 2009: 256). In order to remedy the situation, Masini (2009: 256) introduces a category of multi-word units that is intermediate between syntactic objects like phrases and morphological objects like proper compounds. They are designated as ‘phrasal lexemes’; cf. Italian examples of ‘phrasal nouns’ involving adjectives like *carta telefonica* ‘phone card’, *disco rigido* ‘hard disc’ or *red tape* in English.

Hence, it should come as no surprise that the boundary between cases of structural ambiguity in syntax and morphology is not well defined, either. Consider, for example, the following English sentence: *I enjoy Indian summer holidays*. This sentence is structurally ambiguous as it can be paraphrased in two different ways: (a) ‘I enjoy summer holidays in India’, and (b) ‘I enjoy holidays at the time of Indian summer’. Evidently, the latter interpretation (b) is based on a parsing strategy that identifies *Indian summer* as a fixed phrase or, indeed, a ‘phrasal noun’ as a lexical unit. Upon the alternative interpretation (a), *Indian summer* (with *Indian* denoting ‘location’ or ‘destination’) is neither a lexeme nor a syntactic constituent. When N + N compounds are premodified by attributive adjectives (cf. Berg 2011), the resulting structures are often ambiguous, particularly when the adjective is denominal. It can be relational (cf. *Indian summer holidays* or *American history teacher* above) or, less frequently, qualitative; cf. *dangerous* in the object NP of the sentence *Congress passed a dangerous drug bill*. In this sense, derivational morphology, e.g. noun > adjective derivation, has its share in the structural ambiguity of English compounds (or phrases).

In a somewhat different manner, the boundary between structural ambiguity in syntax and compounding gets obliterated with expressions like *Eye drops off shelf*, characteristic of newspaper headlines.³ Out of context, it is impossible to tell whether the intended meaning is (a) ‘eye drops have been taken off of the shelves (of a drug store)’ or (b) ‘an eye fell from a shelf’, even though the latter interpretation seems less probable. Crucially, given that our attention is focused on only two words here, i.e. *eye* and *drop (off)*, the case is different from the ones presented so far, as it shows how the placement of a constituent boundary alone may decide the status of a compound (*eye drops*) or a phrase (*drops off shelf*). Additional factors like text condensation and ellipsis evidently play a role in such expressions.

The problem is further complicated by the fact that, quite apart from structural ambiguity, a given multi-word expression may also suffer from lexical ambiguity when it contains polysemous items. Thus, for instance, the adjective *American* (cf. example (2) above), depending on context, can mean ‘of or relating to the US’ or ‘of or relating to North or South America’. Moreover, since the paraphrase ‘relating to’ is inherently ambiguous, the adjective in question can really denote a wide variety of specific rela-

³ Source: <http://ibatefl.com/?p=1440>.

tions: origin, location, nationality, citizenship, etc. Similarly, the adjective *Polish* can refer to any of those concepts, plus ‘language’. This sort of ambiguity sometimes causes confusion. One fairly recent example is the controversial phrase *Polish death camps* used by President Barack Obama by which he apparently meant ‘Nazi Germany’s death camps operated in Poland’, i.e. he was referring to ‘location’ rather than ‘origin’ or ‘administration’.⁴ Incidentally, although the aforementioned phrase is, indeed, ambiguous, this is not the same kind of ambiguity as in the case of *American history teacher*. The ambiguity of President Obama’s phrase seems to be due exclusively to the polysemy of the adjective *Polish*, since – structurally (or, in fact, pragmatically) – the locution admits of only one plausible interpretation: cf. $[_{NP} [_A \textit{Polish}] [_N [_N \textit{death}]] [_N \textit{camps}]]]$ vs $*[_{NP} [_{NP} [_A \textit{Polish}] [_N \textit{death}]] [_N \textit{camps}]]]$.

In the remainder of this paper we intend to focus on genuine examples of structural ambiguity because, grammatically, they are more challenging than instances of lexical ambiguity. Whereas the phenomenon of structural ambiguity has been addressed and amply illustrated in the literature as regards English compounds, its scope in derivational patterns has been somewhat neglected. Therefore, the latter topic is taken up below.

3. Structural ambiguity in English derivation

Indeed, when we look at products of derivational morphology, particularly certain lexemes coined by affixation, there is, again, evidence for structural ambiguity. One pattern that offers relevant examples in English are deverbal adjectives where the verbal base is preceded by the prefix *un-* and followed by the suffix *-able*. Consider the following representations, which correspond to two alternative readings of the adjective *unlockable*:

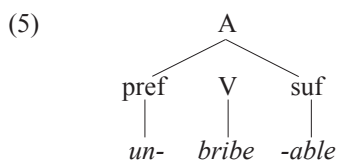
- (4) a. b.
- (i.e. ‘that can be unlocked’)
- (i.e. ‘that cannot be locked’)

⁴ The phrase in question was used by President Barack Obama on May 30, 2012, in his address during the ceremony to commemorate the Polish wartime hero Jan Karski. Source: ‘Polish’ death camps: Mind your language, *Eastern Approaches* (blog), May 29th, 2012, *The Economist*; <http://www.economist.com/blogs/easternapproaches/2012/05/polish-death-camps>.

As may be seen, the trees in (4) above differ, first, in that (4a) is left-branching while (4b) is right-branching. Secondly, the ambiguity is occasioned by the fact that the prefix *un-* appears here in two functions: either as a reversative (deverbal) marker in (4a) or as a negative (de-adjectival) formative in (4b).

Moreover, a closer scrutiny of the class of *un-V-able* derivatives in English reveals that one more structural configuration must be considered.

It is hard to find an English pattern of the *pref-X-suff* type, let alone a single derivative, that would illustrate alternative and systematic three-way structuring of the three morphemes involved, i.e. that would be a case of triple structural ambiguity: left branching, right branching, as well as parasynthesis (note that *unlockable* is compatible with only two interpretations). Therefore, for the sake of argument and perhaps counterfactually, let us assume that the adjective *unbriable* has no existing simpler base of the form *V-able*, i.e. *(*)briable*. This will justify the following tripartite (parasynthetic) representation:



This interpretation appears to make sense only if we are talking about actually attested lexemes, rather than possible (potential) forms. The fact is that *briable* is not listed in any standard dictionary, including the OED.⁵ However, it is to be found in the BNC corpus, just like *unbriable*, with only one citation (frequency 1): *There are no longer any briable Vadinamian ...*, where *briable* appears to be used as a neologism / nonce formation. On the other hand, *briable* gets no hits at all on Google (December 20, 2012). Of course, one might argue that *briable* has the status of a possible / potential form. In fact, the situation seems to be somewhat more complicated here: the unattested but (possibly) potential *V-able* forms are likely to occur (if at all) when there is an element of negation in the sentence (cf. *no longer* in the example just cited). The negative item (whatever it is) may be seen as functionally replacing the prefix *un-*. To take another example of a similar kind: the pair *believable* > *unbelievable* demonstrates

⁵ The *Oxford English Dictionary* (version 4.0, 2009, on CD-ROM) lists 1018 matches for words of the structure *unXable*, i.e. *un*able*, most of which are ultimately deverbal adjectives that we are interested in here. Now, the vast majority of relevant *un-V-able* forms do have attested simpler counterparts (bases) of the type *V-able*, e.g. *unthinkable* < *thinkable*. However, a few such adjectival base-forms find no attestation in this dictionary; e.g. *(*)benefitable*, *(*)briable*, *(*)choosable* are not listed, even though the dictionary has separate entries for the corresponding negatives: *unbenefitable*, *unbriable*, *unchoosable*.

that, intuitively, the base is much less common than the derivative.⁶ The *OED* offers only four citations for the use of *believable* ‘capable of being believed; credible’ (time range: 1382–1859), the most recent of which involves sentence negation: *And that he sinn’d is not believable*. By contrast, there are 8 citations for its negative counterpart, viz. *unbelievable* ‘capable of being believed, credible’ (time range: 1548–1895). The pretty old last citation of *believable* in *OED* (1859) should not mislead us into thinking that the word is obsolete now. The *Cambridge Advanced Learner’s Dictionary* (2008) has an entry for it: “If something is believable, it seems possible, real or true: *I didn’t find any of the characters in the film believable*”. Note, again, that the example sentence characteristically involves negation.⁷

One may conclude by saying that the type of *un-V-able* adjectives is not at all uniform, in terms of synchronic structure, which may produce the effect of structural ambiguity with some forms: apart from the two well-attested alternative hierarchical organizations illustrated in (4a, b), there is the likelihood of flat parasynthetic constituency.

The parasynthetic option is quite real, anyway. The principle of parasynthetic derivation has been brought up in analyses of several other patterns of English derivational morphology. For instance, Adams (2001: 4) points out that “[...] in *decaffeinate* and *anti-bacterial*, prefix and suffix operate together to derive a verb and an adjective from the nouns *caffeine* and *bacteria*.” Another group of examples of parasynthetic formations involves adjectives with a noun base preceded by a locative or quantitative prefix and followed by a (denominal) suffix; cf. *mono-systemic*, *multi-racial*, *bicoloured*, *sub-atomic*, *trans-global*, etc. (Adams 2001: 49).⁸ Plag (2003: 40), who also points to parasynthesis as a factor that may complicate structural analysis in some cases of multiple affixation (like e.g. *decaffeinate*), considers nouns like *reorganization* or *decentralization* in order to demonstrate that they are inherently (structurally) ambiguous. It is hard to decide whether *reorganization* involves right branching or left branching: “*Reorganization* can refer to the organization being redone, or it can refer to the process of reorganizing” (Plag 2003: 40). Both interpretations correspond, respectively, to the following representations: [*re-[organize-ation]*] vs [[*re-organize*]-*ation*].

The sort of structural ambivalence evidenced here is then comparable, to some extent, to the much discussed phenomenon of ‘bracketing paradoxes’ in English

⁶ The intuitive assessment as to their relative frequency is corroborated by a simple Google search: *unbelievable* gets 108,000,000 Google hits while *believable* gets only 18,700. In the BNC, the token frequency for *unbelievable* is 526, as opposed to 92 for *believable*.

⁷ Marchand (1969: 202), discussing negative adjectives in *un-*, points out that, within this formal type, “[m]any adjectives are synthetic formations, i.e. their unprefixated counterparts do not exist”. This is illustrated with participial adjectives like *unassuming*, *unbending*, etc.

⁸ In addition, Adams (2001: 109, footnote 1) employs the concept of parasynthesis in her analysis of certain lexemes which involve both suffixation and compounding: “‘Syntactic’ noun compounds like *bicycle-repairing* [...] can be analysed as either [[*bicycle repair*]ing] or as [[*bicycle*] [*repairing*]], since they are in effect parasynthetic formations [...]”.

morphology,⁹ invoked in analyses of forms like *unhappier*, *ungrammaticality*, or *transformational grammarian*. Formal considerations enforce the following partial bracketings: [un [happi-er]], [un [grammatical-ity]], [[transformational] [grammarian]]. The bracketings based on meaning, on the other hand, are: [[un-happy] -er], [[un-grammatical] -ity], [[transformational grammar] -ian]. However, there is a significant difference between, say, *reorganization* as a case of structural ambiguity and *ungrammaticality* as a bracketing paradox. In the former case, the two alternative structural representations are both motivated semantically,¹⁰ i.e. each of them receives a plausible semantic interpretation (paraphrase). In the latter case, however, the two competing structural representations are due to a ‘mismatch’ of form and meaning.

But still, among the putative instances of bracketing paradoxes in English, there are expressions whose structural analysis may already involve semantic considerations, which leads, again, to the question of ambiguity. Consider cases like *French historian*. As opposed to, say, *transformational grammarian* which cannot be paraphrased as ‘grammarian who is transformational’, *French historian* is ambiguous as it can mean either (a) ‘historian who is French’ or (b) ‘expert in French history (not necessarily a French person)’ (Carstairs-McCarthy 2002: 80). Whereas the former interpretation is compatible with the structure of an ordinary noun phrase in English and so it is unproblematic, on the latter interpretation one might postulate a representation which reflects the semantically motivated option of attaching a personal suffix to the institutionalized phrase *French history*, thus: [[French histori-]-an] (Carstairs-McCarthy 2002: 80).¹¹ Similarly, a phrase like *Russian teacher* is ambiguous: (a) ‘a teacher who is Russian; (b) ‘someone who teaches Russian’. Expressions of this sort, involving derivational affixes, are analysed as instances of ‘scope ambiguity’ in Beard (1991). Consider a few more examples (adapted from Beard 1991: 196):

(6) *nuclear physicist*

a. [nuclear] [physicist] ‘a physicist who is nuclear (to some project)’

b. [nuclear physic]ist ‘someone who studies nuclear physics’

criminal lawyer

a. [criminal] [lawyer] ‘a lawyer who is criminal’

b. [criminal law]yer ‘someone who practices criminal law’

moral philosopher

a. [moral] [philosopher] ‘a philosopher who is moral’

b. [moral philosoph]er ‘someone who studies moral philosophy’

⁹ For an overview, see e.g. Spencer (1991: 397–422), Carstairs-McCarthy (1992: 92–97).

¹⁰ The traditional term ‘double motivation’ seems appropriate here.

¹¹ Carstairs-McCarthy (2002: 80) contemplates one more solution here: “Or should we say that, with both interpretations, the structure of the expression is the same (namely [[French] [historian]]), but that for one of the interpretations this structure is a bad guide?”.

Evidently then, the expressions listed in (6) are ambiguous. Moreover, they are structurally ambiguous, quite apart from the fact that, in each case, both readings may differ in their relative frequency or plausibility. “The problem is that these constructions seem to have, in addition to a wide scope reading $[[Xx][Yy]]$, exemplified by (a), which parallels syntactic structure, a narrow scope reading $[[Xx Y]y]$, exemplified in (b), which does not” (Beard 1991: 196). The case is interesting also in the sense that it demonstrates, again, how structural ambiguity in English morphology may be entangled with the syntax, not only in the case of compounding (cf. Section 2), but also as regards affixal derivation.

What is relevant from the viewpoint of the present discussion is that, based on the examples given so far, in order to contemplate structural ambiguity in morphology, we need to have a minimum of three constituents (stems, affixes) per lexeme, A+B+C (as evidenced, for instance, by both the compound in (1)¹² and the derivative in (4)). Additionally, there are three basic structural configurations available, i.e., for right-headed combinations: (a) a complex modifier followed by a simplex head; (b) a simplex modifier followed by a complex head; or (c) a flat and symmetrical structure, where the input form is flanked by two satellites (parasyntesis, as illustrated in (4)). When viewed synchronically, such cases are often fairly indeterminate and may be described as instances of double (multiple) motivation. From a diachronic viewpoint, they may show signs of ‘reanalysis’, when, for instance, structure of type (b) replaces structure of type (a); cf. *oak-panelled* paraphrasable as either ‘panelled in oak’ or as ‘having oak panels’ (Adams 2001: 134). Another interesting question is this: could there be any structural ambiguity in English morphology when a lexeme is composed of just two meaningful elements? The following pairs of English deverbal adjectives in *-able* appear to demonstrate that this is, indeed, possible, given a theory that is powerful enough (Aronoff 1976: 123):

- | | | |
|-----|----------------------|------------------------|
| (7) | a. <i>cómparable</i> | b. <i>compáritable</i> |
| | <i>réfutable</i> | <i>refútable</i> |
| | <i>préférable</i> | <i>preféritable</i> |
| | <i>dísputable</i> | <i>dispútable</i> |

The words in (7a) differ from those in (7b) phonologically,¹³ i.e. in stress placement, as well as semantically: adjectives of type (7b) tend to have compositional meanings while those of type (7a) often do not; cf. *compáritable* ‘capable of being compared’ vs

¹² Given the recursiveness of English N+N compounds, structural ambiguity may also arise when there are four, five, or even more constituents. For example, because *student film society* is ambiguous, i.e. [student [film society]] or [[student film] society] (cf. Spencer 1991: 310), it follows that *student film society committee* is structurally ambiguous as well.

¹³ Because the words differ in stress, then they are ambiguous only in their orthographic form. Cf. also Giegerich (1999: 29) on stress placement in the *-able* adjectives under discussion.

cómparable ‘similar, equivalent’ (Aronoff 1976: 127). Within the model of Aronoff (1976), two distinct *-able* suffixes are postulated in order to account for the observed differences, viz. *+abl* and *#abl*, for the words in (7a) and (7b), respectively. Leaving aside the lexical distinction that is thereby created (two suffixes rather than one), we should note here, in particular, the positing of two boundary elements, i.e. *#* as a strong boundary and *+* as a weak boundary. Crucially, as to the status of those boundaries, Aronoff (1976: 122) argues as follows: “Boundaries have neither sound nor meaning. They affect the two in parallel manners and are therefore not elements of linguistic substance, but rather elements of linguistic structure.” Assuming the validity of this (or any comparable) solution, evidently it enriches the scope of what is possibly meant by ‘structural ambiguity’: it turns out that two structurally ambiguous words might have identical hierarchical structure (bracketing) but differ in (structural) boundary elements.

The following section will demonstrate that another special kind of structural ambiguity may be attributed to the so-called derivational homonyms.

3.1. English derivational homonyms

Before we proceed, let us introduce informal definitions of the key terms to be used in this section:

- Complete homonyms – words which have identical pronunciation as well as spelling
- Homophones – words which have identical pronunciation but different spelling
- Homographs – words which have identical spelling but different pronunciation

Of course, the phenomenon of homonymy in the English lexicon has been discussed and amply illustrated in numerous studies and textbooks, including in particular the classificatory controversies that it engenders, notably concerning the lack of a clear-cut dividing line between homonymy and polysemy (cf., for instance, Jackson and Zé Amvela 2000: 73; Liberman 2005: 205; Lipka 1992: 135; Pinker 2008: 108). Matthews (2005: 164) defines homonymy as “[t]he relation between words whose forms are the same but whose meanings are different and cannot be connected: e.g. between *pen* ‘writing instrument’ and *pen* ‘enclosure’.” Allan (2001: 42) offers the following definition of homonymous listemes: “Two listemes of the same form are HOMONYMOUS if they warrant separate lexicon entries because the identity of form is coincidental.”

The special term “derivational homonyms” is not to be found anywhere in such discussions as, in fact, it does not seem to be used in English linguistic jargon. The available accounts are not sensitive to the question of morphological complexity in English homonyms, perhaps because the vast majority of English homonyms are not morphologically complex, anyway. Nevertheless, it is precisely an aim of this paper to demonstrate that (a) derivational homonyms do exist in English; (b) they do have interesting properties of their own, and so (c) the term (and concept) ought to be incorporated

into current grammatical parlance.¹⁴ We propose the following tentative characterization of the notion in question, i.e. derivational homonyms as a special kind of homonym:

- Derivational homonyms (or homophones/homographs) differ in morphological structure and complexity, i.e. one is simplex (monomorphemic) while the other is complex (polymorphemic) or both are polymorphemic but they involve distinct affixes and/or morphological boundaries in different positions.

Derivational homonyms arise due to the operation of word-formation processes, notably affixation. Consider, as our first example, the following pair of unrelated words: the noun *entrance* ['entrəns] and the verb *entrance* [ɪn 'trɑːns]. Since the two forms differ in pronunciation but not in orthography, they illustrate the particular concept of derivational homography. Both words are morphologically complex, but their structure is different: the noun *entrance* is a deverbal coinage with the suffix *-ance* (thus *enter* + *ance*) while the verb *entrance* is a denominal formation featuring the prefix *en-* (*en* + *trance*).

At first glance, it might appear that, apart from affixation, conversion in English regularly yields comparable pairs, i.e. cases like (total) homonymy (illustrated in (8a)) or just homography, when, for instance, the members of a pair differ in stress and/or vowel quality (cf. (8b)).¹⁵ Consider the following examples:¹⁶

(8) a. Noun	Verb
<i>pilot</i> ['paɪlət]	<i>pilot</i> ['paɪlət]
<i>balance</i> ['bæləns]	<i>balance</i> ['bæləns]
<i>feature</i> ['fi:tʃə]	<i>feature</i> ['fi:tʃə]
<i>partition</i> [pɑː'tɪʃn]	<i>partition</i> [pɑː'tɪʃn]
b. Noun/Adjective	Verb
<i>absent</i> ['æbsənt]	<i>absent</i> [æb 'sɛnt]
<i>perfect</i> ['pɜːfɪkt]	<i>perfect</i> [pɜ 'fekt]
<i>permit</i> ['pɜːmɪt]	<i>permit</i> [pɜ 'mɪt]
<i>attribute</i> ['ætrɪbjʊt]	<i>attribute</i> [ə 'trɪbjʊt]
<i>moderate</i> ['mɒdərət]	<i>moderate</i> ['mɒdəreɪt]

However, the sort of structural ambiguity evidenced by conversion pairs is of a different kind. Even though it can be argued that both members of such a pair differ in morphological structure or complexity (particularly when a zero suffix is postulated),

¹⁴ The category of “derivational homonyms” is not a new idea, cross-linguistically. It is successfully employed, for instance, in Polish lexicology; cf. Polish *homonimy słowotwórcze* ‘derivational homonyms’, as opposed to *homonimy leksykalne właściwe* ‘lexical homonyms proper’ (see e.g. Buttler 1988: 7–9); cf. also Szymanek (2004), (2010: 265).

¹⁵ See, for instance, Gimson (1980: 233) for more examples of pairs with stress-shift and concomitant vocalic alternations.

¹⁶ The phonetic transcriptions employed here and elsewhere in this text are according to Wells (1990), though occasionally simplified.

it is crucial to note that they are morphologically related and hence those cases fall beyond the scope of homonymy as it is normally understood (i.e. as a relationship holding between two lexically distinct and often etymologically unrelated items).¹⁷ It would make more sense to speak of derivational homonymy in cases like *to process* ['prəʊsəs] (conversion based on the noun *process*) vs. *to process* [prəʊ' ses] (a back-formation from *procession*, OED); at least, as one can see, two distinct derivational processes are involved here.¹⁸ On some accounts, regular conversion-related pairs, like for instance *hammer* (noun) > *hammer* (verb), represent so called complementary polysemy, as opposed to contrastive ambiguity evidenced by homonyms (Pustejovsky 1995: 27–28).

On the other hand, the phenomenon of derivational homonymy (-phony, -graphy) and the ambiguity involved therein bears some resemblance to the phrasal pairs like *a name / an aim*, *ice cream / I scream*, *grey tape / great ape*, *my turn / might earn*, etc., which are usually discussed by phonologists (see, for instance, Roach 2000: 144).¹⁹ The possible ambiguity of such expressions in spoken language concerns the placement of “internal open juncture”, i.e. the word boundary that separates two neighbouring constituents. This is comparable to the problem of positing the morpheme boundary in the word(s) *entrance*, as mentioned above. Actually, there is some overlapping between phenomena of both types, i.e. the syntactic and morphological ambiguity under discussion, since pairs can be given where one member is a phrase while the other is a complex word; cf. *a head* vs. *ahead*. Specifically, ‘minimal pairs’ like *nitrate* and *night rate* demonstrate that the ambiguity in question may also concern derivatives and compounds, respectively (quite apart from the fact that in some dialects or idiolects they are not pronounced identically).²⁰ Oaks (2000: 22) mentions another relevant example where a whole sentence can be homophonous with just one word: *Did you make her? / Jamaica*.

As regards the narrowly defined topic of English derivational homonyms, Table 1 given below offers a background typology with examples. It lists exemplary pairs of English lexemes arranged according to two significant parameters: firstly, the type of homonymy involved, i.e. (a) complete homonyms, (b) homophones, and (c) homographs; and, secondly and more importantly, morphological complexity. The latter factor gives us, a priori, a threefold division of homonymous pairs: (A) simplex / simplex, i.e. cases where both items are morphologically simple or underived, (B) simplex / complex,

¹⁷ However, opinions differ on this issue. For example, according to Lipka (1992: 138), a conversion-related pair like *a can* > *to can* ‘put into a can’ ought to be regarded as a case of homonymy.

¹⁸ Verbal outputs of denominal conversion occasionally result in two stress-differentiated and semantically distinct forms as well; cf. *abstract* A/N > *abstráct* ‘remove’ vs. *ábstract* ‘summarize’, *survey* N > *survéy* ‘look at or examine, etc.’ vs. *súrvey* ‘carry out a survey’.

¹⁹ Also *etymologists* deal with similar phenomena from a diachronic viewpoint. Cf. the misdivision (metanalysis) or redistribution of boundaries involved in changes like *a napron* > *an apron* or *mine uncle* > *my nunclé* (Lieberman 2005: 99).

²⁰ Cf., for instance, the pertinent remarks on this issue, concerning juncture, in John Wells’s phonetic blog (1st October 2012) at: <http://phonetic-blog.blogspot.com/2012/10/the-wardrobe-in-bedroom.html>.

where one member of the pair is morphologically simple while the other is derived, and (C) complex / complex, i.e. instances where both members of the pair have the status of derivatives (although they may differ in the details of their morphological structure). It will be seen that, from the viewpoint of the topic under discussion, the types designated as (B) and (C) deserve closer scrutiny whereas all kinds of homonymy involving underived forms (type (A) – simplex / simplex) will be ignored in what follows, simply because morphology is not at stake here. In other words, we will have nothing more to say below about pairs like: (a) *bear* N / *bear* V, *bank* N / *bank* N, etc. (underived complete homonyms); (b) *sea* N [si:] / *see* V [si:], *sweet* A [swi:t] / *suite* N [swi:t], *bow* V [bau] / *bough* N [bau], etc. (underived homophones); or (c) *bow* N [bəu] / *bow* V [bau], *lead* V [li:d], *lead* N [led], etc. (underived homographs). Incidentally, such items account for the vast majority of homonymous pairs in English. According to McArthur (1992: 483), “[t] here are over 3,000 homographs in the *Concise Oxford Dictionary* (8th edition, 1990)”. Today, lists of English homonyms are available on the Internet, as well as article-length discussions of their various aspects; not to mention analyses in printed publications. So it might seem that the topic has been thoroughly exhausted. Indeed, it would be all too easy to amass and replicate the evidence concerning English homonyms in general. However, one aspect seems to be missing in the discussions so far. This is the morphology of the existing homonyms and, in particular, cases where the homonymy relation is due to the operation of a word-formation process. Cases of this sort are relatively infrequent but they are worth investigating because, as a class, they pose some interesting questions about the interplay of phonology, morphology, semantics, and the lexicon.

Table 1. A typology of English homonyms according to the parameter of morphological complexity

Morphological complexity	(a) Complete Homonyms	(b) Homophones (Heterographs)	(c) Homographs (Heterophones)
A. Simplex / Simplex	(A.a) <i>bear</i> N [beə] (animal) <i>bear</i> V [beə] (carry)	(A.b) <i>see</i> V [si:] <i>sea</i> N [si:]	(A.c) <i>lead</i> V [li:d] <i>lead</i> N [led]
B. Simplex / Complex	(B.a) ?	(B.b) <i>wait</i> V [wert] <i>weight</i> N [wert] <i>weigh</i> + <i>t</i>	(B.c) <i>irony</i> N [aɪrəni] <i>irony</i> A [aɪəni] <i>iron</i> + <i>-y</i>
C. Complex / Complex	(C.a) <i>finer</i> A [ˈfaɪnə] <i>fine</i> + <i>-er</i> Comp. <i>finer</i> N [ˈfaɪnə] <i>fine</i> + <i>-er</i> Ag ‘one who fines’ (obsolete)	(C.b) <i>stationery</i> N [ˈsteɪʃənəri] <i>stationer</i> + <i>y</i> <i>stationary</i> A [ˈsteɪʃənəri] <i>station</i> (+)ary	(C.c) <i>entrance</i> N [ˈentrəns] <i>enter</i> + <i>-ance</i> <i>entrance</i> V [ɪn ˈtrɑːns] <i>en-</i> + <i>trance</i>

Table 1 gives one example for each type of homonymy, unless there is a gap (i.e. no relevant examples have been found) – cf. the cell marked as (B.a). Disregarding the trivial case of simplex pairs of type (A), let us now elaborate on the relevant data, by giving further examples of derivational homonyms which represent types (B) and (C), i.e. the classes which are of our immediate concern. In particular, the following three varieties find attestation in dictionaries of English:

(9) Homophones of type (B.b) – simplex / complex

<i>cellar</i> N ['selə]	/	<i>seller</i> N ['selə] <i>sell</i> + <i>-er</i>
<i>finish</i> V ['fɪnɪʃ]	/	<i>Finnish</i> A ['fɪnɪʃ] <i>Finn</i> + <i>-ish</i>
<i>forth</i> Adv [fɔ:θ]	/	<i>fourth</i> Num [fɔ:θ] <i>four</i> + <i>-th</i>
<i>hanger</i> N ['hæŋə]	/	<i>hanger</i> N ['hæŋə] <i>hang</i> + <i>-er</i>
<i>minor</i> A ['maɪnə]	/	<i>miner</i> N ['maɪnə] <i>mine</i> + <i>-er</i>
<i>naval</i> N ['neɪvəl]	/	<i>naval</i> A ['neɪvəl] <i>navy</i> + <i>-al</i> ²¹

(10) Homographs of type (B.c) – simplex / complex

<i>invalid</i>	N ['ɪnvəlɪd]	/	<i>invalid</i> A [ɪn 'vælɪd] <i>in-</i> + <i>valid</i>
<i>number</i> N ['nʌmbə]		/	<i>number</i> A ['nʌmə] <i>numb</i> + <i>-er</i>
<i>polish</i> V ['pɒlɪʃ]		/	<i>Polish</i> A ['pəʊlɪʃ] <i>Pole</i> + <i>-ish</i>
<i>sewer</i> N ['su:ə] ‘drain’		/	<i>sewer</i> N ['səʊə] <i>sew</i> + <i>-er</i> ‘one that sews’
<i>statist</i> N ['stætɪst] ‘statistician’		/	<i>statist</i> N ['stetɪst] <i>state</i> + <i>-ist</i>
<i>supply</i> V [sə 'plai]		/	<i>supply</i> Adv ['sʌpəli] <i>supple</i> + <i>-ly</i>
<i>shower</i> N ['ʃaʊə]		/	<i>shower</i> N ['ʃəʊə] <i>show</i> + <i>-er</i> ‘one that shows’
<i>tier</i> N [tɪə]		/	<i>tier</i> N [taɪə] <i>tie</i> + <i>-er</i> ‘one that ties’

(11) Homographs of type (C.c) – complex / complex

<i>bustier</i> A ['bʌstɪə] <i>bust</i> y + <i>-er</i>	/	<i>bustier</i> N ['bʌstɪə] <i>bust</i> + <i>-ier</i>
<i>furrier</i> A ['fɜ:riə] <i>furry</i> + <i>-er</i>	/	<i>furrier</i> N ['fʌriə] <i>fur</i> + <i>-ier</i>
<i>multiply</i> V ['mʌltɪplai] <i>multi-</i> + <i>ply</i>	/	<i>multiply</i> Adv ['mʌltəpli] <i>multiple</i> + <i>ly</i>
<i>periodic</i> A [ˌpɪəri 'ɒdɪk]		<i>period</i> + <i>-ic</i> / <i>periodic</i> A [ˌpɜ:ri 'ɒdɪk] <i>per-</i> + <i>iod</i> + <i>-ic</i>
<i>resign</i> V [rɪ 'zaɪn] <i>re</i> ₁ - (+) <i>sign</i>	/	<i>resign</i> V [rɪ 'saɪn] <i>re</i> ₂ - + <i>sign</i>

It appears that the suffix that is most commonly found in English derivational homonyms is *-er*. This is partly due to the fact that, strictly speaking, there are two homophonous suffixes of that form, i.e. the comparative *-er*₁ (in adjectives and adverbs) and the agentive/instrumental *-er*₂ (in nouns).²²

²¹ Although the adjective *naval* is, ultimately, a borrowing from Latin, it appears to be bimorphemic synchronically, being motivated by the noun *navy*.

²² Cf. also the pair *better* (adjective, comparative) vs. *better* / *bettor* (noun; ‘one who bets’). Here, however, the bimorphemic status of the suppletive comparative *better* is rather dubious.

4. Comments and conclusion

A few comments are now in order, concerning the distinct groups of derivational homonyms given above. Firstly, the lists may appear uncharacteristically short. However, no claim is being made here as to their exhaustiveness. Rather, in each case we are dealing with a selection of representative and relatively straightforward pairs even though, admittedly, the number of all relevant examples illustrating each case is not high. Morphological complexity is a gradable concept, even when it is understood in purely synchronic terms. Therefore, the list in (9), for instance, does not include the pair *site* (or: *cite*) / *sight*, even though some native speakers may perceive the relationship between the verb *see* and the noun *sight* as transparent enough for the latter form to be treated as morphologically complex. Moreover, the fact that the present analysis is focused on derivational morphology prevents us from discussing numerous instances of homophones where one member of a pair is an inflected form; cf. the regular noun plural or the third person present tense endings in, for instance, *bruise* / *brews*, *choose* / *chews*, *clause* / *claws*, *cox* / *cocks*, *cruise* / *crews*, *nose* / *knows*, *phlox* / *flocks*, *raise* / *rays*, *sax* / *sacks*, *size* / *sighes*, *tax* / *tacks*.²³ Consider as well the regular past tense (past participle) endings in *bard* / *barred*, *board* / *bored*, *fold* / *foaled*, *hold* / *holed*, *least* / *leased*, *mind* / *mined*, *mist* / *missed*, *mode* / *mowed*, *pact* / *packed*, *road* / *rowed*, *side* / *sighed*, *staid* / *stayed*, *sword* / *soared*, *tact* / *tacked*, *told* / *tolled*, *wade* / *weighed*, etc. Some irregular verbs also contribute to the stock of attested homophones; cf. *herd* / *heard*, *maid* / *made*, *red* / *read*, etc.

Secondly, it is worth emphasizing the apparent lack of complete derivational homonyms in English, if we disregard cases of conversion-related pairs. Based on a casual search of the data, I have not been able to find any relevant examples for type (B.a) and only one instance for type (C.a); cf. Table 1. Although the evidence for all six types is scanty, indeed, and so generalizations are hard to arrive at, it appears that there is a relative preference for pairs whose members preserve their formal identity at least partially, either at the level of speech or writing, i.e. (derivational) homophones or homographs. If this generalization is correct, it would amount to saying that complete homonyms in English tend to be represented only by pairs of underived lexemes (usually monosyllables, like the noun *bear* and the verb *bear*). This feature of the English lexicon appears to be language specific and seems to be largely due to the complex nature of the phonetic/graphemic correspondences. By contrast, it ought to be pointed out that, for instance, Polish offers quite an impressive set of lexical pairs which are complete derivational homonyms, indistinguishable in both written and spoken form

²³ Additionally, a pair like *rights* (noun) and *writes* (verb) demonstrates that, since the two inflectional markers (plural *-s* on the noun and 3rd person sg. present tense *-s* on the verb) are homophonous, when they are combined with homophonous stems we get two homophonous inflected forms.

(for instance: *ranny*_A I ‘wounded’ < *rana* ‘wound’ vs. *ranny*_A II ‘morning attr.’ < *rano* ‘morning’; *podrobić*_V I ‘to forge, counterfeit’ < *robić* ‘to do/make’ vs. *podrobić*_V II ‘to crumble, perfective’ < *drobić* ‘id., imperfective’, etc.).²⁴

Thirdly, it has occasionally been pointed out in the morphological literature that a certain type of blocking prevents the formation of complex words that otherwise might be totally homonymous with particular, well established lexemes. Thus, for instance, Bauer (1983: 289), while discussing subject (agentive) nominalizations in English, notes the following: “In four cases blocking appears to prevent the use of *-er*: *adaptee* (*adaptor* is an instrument), *knockee* (*knocker* is an instrument), *mergee* (*merger* is what the mergees are a party to) and *waitee* (*waiter* is a profession)”. Moreover, Bauer adds that (*)*meeter* ‘sb. who meets’, a conceivable subject nominalization of the verb *to meet*, “might have been blocked by the homophonous *meter/metre*” (Bauer 1983: 289). These remarks may lend further support to the claim that complete (total) derivational homonymy in English is extremely rare.

Overall, it turns out that cases of structural ambiguity in English word-formation that are solely due to derivational processes are no less challenging and diversified than their counterparts in the realm of compounding.

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²⁴ See Szymanek (2010: 265–8) for more examples and discussion.

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Abstract

The phenomenon of structural ambiguity, which commonly appears at the level of syntax, reveals itself in the lexicon as well. It is the aim of this article to bring together relevant cases of structural ambiguity in English word-formation, i.e. complex lexemes that arise as ambiguous structures due to the operation of processes like compounding or affixation. A brief overview of structurally ambiguous compounds is presented first. Next, the discussion focuses on the ambiguity of English affixal derivatives, a topic which has been somewhat neglected in the literature. In particular, special emphasis will be laid on ‘derivational homonyms’ – a category that hitherto seems to have escaped the attention of students of lexical relations in English. For example: *entrance* (noun) vs. *entrance* (verb). The data under analysis demonstrate that several patterns of English affixation as well as compounding contribute to the stock of structurally ambiguous lexemes. The sources and kinds of this ambiguity are manifold, partly depending on what is meant by ‘morphological structure’.