# Blends: an intermediate category at the crossroads of morphology and phonology 

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#### Abstract

Blends are traditionally seen as irregular and unsystematic. In this paper it is shown that one must make a distinction between stub compounds or clipped compounds (sitcom, misper) and real blends (brunch, advertorial). In much of the literature on blends, however, stub compounds are classified as blends.

Stub compounds appear to be compounds and follow the Compound Stress Rule, whereas blends turn out to form a category of its own. Blends exhibit a right-hand head and insofar they can be compared to compounds. However, their prosodic structure is a copy of the second source word, the word where the final part of the word comes from. The analysis presented here demonstrates that blends consist of one prosodic word, whereas compounds consist of two. This proves that blends are an intermediate category of their own at the intersection of phonology and morphology. The examples discussed mainly come from English. Data from Dutch and German is also presented.


Keywords: blends; clipping; stub compounds; prosodic word; phonology-morphology interface.

## 1. Introduction

The aim of this paper is twofold: first it will be shown that blends are fully systematic, ${ }^{1}$ secondly it will be demonstrated that blends form a separate category at the crossroads of morphology and phonology.

Marchand (1969: 451-454) discusses blends at the very end of his classic handbook on English word formation in a chapter called briefly "blending and word-manufacturing". This placement and the very brief treatment indicate that, according to him, blending cannot be put on par with the main processes

[^0]of word formation such as compounding, prefixation, suffixation and zero derivation. Moreover, Marchand (1969: 451) complains that "the term blending is generally used for quite heterogeneous things", such as the incidental change from words associated with other words, for instance "the change from OE gefan into gifan under the influence of niman", next to "folk-etymologies, secretion of suffixes and manufactured words". In addition, he claims that "blending can be considered relevant to word-formation only insofar as it is an intentional process of word coining". Blending, according to Marchand, "is compounding by means of curtailed words. However, the clusters $s m$ and $o g$ [from smoke and fog and together forming the blend smog] were morphemes only for the individual speakers who blended them, while in terms of the linguistic system as recognized by the community, they are not signs at all. Blending, therefore, has no grammatical, but a stylistic status. The result of blending is, indeed, always a moneme, i.e. an unanalysable, simple word, not a motivated syntagma". Although Marchand is right when he claims that blends are monemes, as will be demonstrated, they can be analysed as will be shown in this paper.

Whereas Marchand considered blending to be a marginal case, Renner, Maniez and Arnaud (2012:2) point to "the relative productivity of the process in Late Modern English" and the "variety of typologically different languages" for which blending is attested. Ayto (2003: 185) notices that the number of blends appears to have multiplied in English in the course of the 20th century. He shows a diagram with the number of blends by decade between 1900 and 1990. From these figures one can only support the conclusion Bryant (1974) drew thirty years before that "blends are increasing", as the title of her article is. The figures also support the claim by Cannon (1986: 736-737, Canon 2000: 956) that blending seems to have developed into an important word formation pattern. Bauer (1994: 37-38) even goes a step further in his discussion of different types of word formation processes in English over the period from 1880 till 1982. He claims that there is an increase of blends and 'abbreviations' as opposed to a decrease in the number of words derived by suffixation in the same period. ${ }^{2}$ Brdar-Szabo and Brdar (2008: 190) conclude that any language, in which once finds compounding and clipping, may exhibit blending. Renner

[^1](2015: 121-122) lists Korean, Malay, Mandarin and Modern Hebrew as languages next to Indo-European languages in which blending has been documented. Renner (2018: 2) describes blending as one of the most expansionist processes in word formation, that can easily be copied from English into other languages. Balteiro and Bauer (2019: 2) notice that "blends seem to be everywhere, from the most technical language to the most informal, even in slang". In addition, Mattiello (2019: 24) concludes on the basis of "a lexicographic investigation combined with a corpus-base analysis that blending is growing as a word-formation process".

This productivity and easy borrowability make it difficult to still dismiss blending as marginal. ${ }^{3}$ Therefore, the new handbook by Bauer et al. (2013: 458-462) no longer pushes blending aside and describes it as a type of compounding, just as Beliaeva (2019a), who regards blends a subtype of compounding, albeit with phonological restrictions resulting in blends being a single word. In this respect she follows the conclusion of Bauer et al. (2013: 458), who claim that blends "behave like other compounds" semantically, "but stress-wise they behave like a single word, normally adopting the stress pattern of one of the two source words". However, Bauer et al. must admit that there is "no agreed definition of the phenomenon". They discuss two types, the first involves loss of medial segmental material of both source words as in brunch from breakfast + lunch and the other in which both final segments of the two source words are truncated as in modem from modulator + demodulator. This second type is called "clipped compounds". However, the authors continue "it is not immediately obvious whether the distinction between blends and clipped compounds is theoretically or empirically informative".

Clipped compounds are also called "clipping compounds" (Bauer et al. 2013: 458), "complex clippings" (Bauer 2019: 92) or "stub compounds" (Spencer 1998; Hamans 2018a). Hamans (2018a) prefers the term stub compounds, since stubs are mainly bound elements whereas clippings may appear as free forms (see Hamans 2018b). Because of this reason the term stub compound is used here.

In the remaining of their analysis Bauer et al. mistakenly sweep the two types together into a heap, as will be shown here. Therefore their conclusion

[^2]"blends are a productive word-formation process in English which, in spite of the considerable variability, conforms to a number of general principles and tendencies that highly restrict the structure of possible formations" (Bauer et al. 2013: 462), can be stated even more strictly.

The data discussed in this paper come from the literature about blends.

## 2. Two types

As said before Bauer et al. (2013: 458) distinguish two types of blends. Both types combine portions of two source words. The first type "involves the loss of medial segmental material" or, to put it differently, combines the first or left part of the first source word (sw1), the left source word, and the last or right part of the second, the right one (sw2), as in (1).

| (1) | swl | sw2 | blend |
| :---: | :---: | :---: | :---: |
|  | breakfast | + lunch | $\rightarrow$ brunch |
|  | smoke | + fog | $\rightarrow$ smog |
|  | stagnation | + inflation | $\rightarrow$ stagflation |
|  | advertisement | + editorial | $\rightarrow$ advertorial |

In the second type final segmental material of both source words is truncated.

(2) | swl | sw2 | stub compound |
| :--- | :--- | :--- |
| modulator | + demodulator | $\rightarrow$ modem |
| picture/pix | + element | $\rightarrow$ pixel |
| situation | + comedy | $\rightarrow$ sitcom |
| frozen | + yoghurt | $\rightarrow$ froyo |

"The two patterns can be formalized as in (3), where AB stands for the left base (with its two parts A and B ) and CD stands for the right base, with its two parts C and D" (Bauer et al. 2013: 458).
(3a) $\mathrm{AB}+\mathrm{CD} \rightarrow \mathrm{AD}$
(3b) $\mathrm{AB}+\mathrm{CD} \rightarrow \mathrm{AC}$

The formalization of (3a), which says that the first part of the first source word, sw1, must be combined with the final part of the second source word, sw2,
leads to blends tout court. The pattern of (3b), where the first portions of both source words, sw1 and sw2, are combined, results in clipped compounds to use the terminology of Bauer et al. (2013: 458) but what is called here stub compounds

In the remaining of this paper it will be shown that the difference between AD and AC concatenations, or between blends and stub compounds, corresponds with other formal features and that both types of concatenations are systematic.

Beliaeva (2014a, 2014b, 2015, 2016, 2019b) emphatically points out that there are also blends where either or both source words remain fully present in the resulting blend. The presence of a complete word can be of great importance for recognizability, and therefore for possible interpretation. Hence the emphasis that Beliaeva, who focuses on the recognizability of blends, places on this. Because of this difference in recognizability it makes sense for her to distinguish categories of blends in which one or more complete words are included. However, whether or not a complete word has been preserved is unimportant to the formal analysis of blends. Most of Beliavea's data containing full words can easily be described as AD blends. ${ }^{4}$

## 3. Stub compounds

Gries (2006 and 2012) analyses different kinds of "subtractive word formation" from a cognitive linguistic perspective. In this context he convincingly demonstrates by using sophisticated statistical techniques that there is a difference between blending and stub compounding. The differences he notes

[^3]are quite heterogeneous and can mainly be found in the degree of productivity between the two types, the amount of segmented material remaining in the final form, the degree of similarity between the source words and finally the absence of an overlapping part in the stub compounds. Beliaeva (2014a, $2014 b, 2015,2016)$ bases her research on Gries (2006) and notices that stub compounds go back to words that co-occur frequently, whereas blends tend to be formed from words, which are semantically and phonetically similar. Beliaeva (2014 a and b) studies, among onther things, the distribution of phonemes in stub compounds and blends. She combines the results thereof with semantic differences and then comes to the conclusion that there is a difference between AC and AD concatenations. AC concatenations or stub compounds are contractions of existing compounds, whereas AD concatenations or blends are the result of creative word formation. However, there are enough marginal cases for this distinction not to become absolute. In addition, it is doubtful whether her assumption that AC formations derive from the frequent co-occurrence of the two source words is correct. To take just a few AC examples from Belaieva (2014), the stub compounds botox, hazmat and modem do not come from frequently co-occurring source words. The respective combination of source words are: botulism + toxin, hazardous + material and modulator + demodulator. These examples do not confirm Beliaeva's claim (2014b: 80) that AC concatenations tend to merge together words which could appear as a compound or appear as contractions of existing compounds (Beliaeva 2014a).

The data presented so far are sufficient to follow the conclusion of Bauer (2019: 92) that "there is increasing evidence that they [stub compounds] behave differently from blends". One of the most promising differences has already been noted by Bauer (1983: 233) himself. It is the difference in stress pattern. Stub compounds follow the Compound Stress Rule, CSR, whereas blends tout court exhibit simple word stress, as already suggested by Marchand's conclusion that blends are monemes.

CSR says that in a compound [[A][B]], [A] is strong (Chomsky and Halle 1968: 1-4). CSR operates in a similar way in English, German and Dutch (Booij 1995: 115, Giegerich 1985: 168 and Wurzel 1980: 309).

Stub compounds get stress on the left part of the resulting AC form, even when stress is on the second lexeme in the full, non-truncated, sequence of source words, as the adjective + noun examples of (4a) show. Stress assignment in stub compounds also leads to stress on the leftmost part of the final AC form when stress falls on for instance the second or third syllable of the first source word, as shown in (4b).
(4a) Stub compound sw1 sw2
mísper < missing pérson
mídcult $<$ middle cúlture
fróyo < frozen yóghurt
(4b) Stub compound sw1 sw2

| sítcom | $<$ situátion | cómedy |
| :--- | :--- | :--- |
| bíopic | < biógraphy/biográphical pícture |  |
| cýborg | $<$ cybernétic | órganism |

The examples in (4a) show that these AC formations or stub compounds also behave like compounds in another respect: they appear to follow the Righthand Head Rule (Williams 1981) and thus is the final form a noun, whereas the combination of source words consists of a sequence of an adjective plus a noun. In this respect stub compounds can be compared to normal adjective + noun compounds such as greenhouse, bluebird and redhead. ${ }^{5}$

The data presented above show that AC concatenations really behave as if they were compounds, albeit that the constituent parts are not free forms but clippings. The question which now remains is how to clip or truncate the source words. Lappe (2007), Berg (2011) and Hamans (2012, 2018b, 2020) discusses clipping extensively. The most frequent form of clipping is back clipping, which results in $(\mathrm{C})(\mathrm{C}) \mathrm{V}(\mathrm{C})(\mathrm{C})$ forms such as those in (5).
(5a) clipped form sw
tram <tramway
pic $<$ picture
ad <advertisement
However, a more recent trochaic (Hamans 2012, 2020) pattern also exists:
(5b) clipped form sw
psycho < psychopath
dipso $<$ dipsomaniac
info $<$ information

[^4]Almost all clippings which appear in the examples (4a) and (4b) follow the main $(\mathrm{C})(\mathrm{C}) \mathrm{V}(\mathrm{C})(\mathrm{C})$ pattern, only bio in biopic is an example of the trochaic pattern. This is not the place to discuss clipping extensively, it suffices to show that the clippings of the AC formations discussed here follow standard clipping patterns. The only difference between standard clipping and the clipping process operating in ( $4 \mathrm{a} \& \mathrm{~b}$ ) is that standard clipping may result in free forms, whereas the clipping process that operates here only seldom leads to a possible free form or makes use of free clipped forms. Bio and pic are the only possible free form so far. ${ }^{6}$

Another, less important property, of stub compounds is that they are mostly disyllabic, which is, of course, a consequence of the compounding of two monosyllabic clipped forms with a CVC syllabic structure. Blends can be monosyllabic, smog for instance, disyllabic, i.e. glasphalt, or polysyllabic, see for instance stagflation, barkitecture and advertorial.

## 4. Head of blends

According to Gries (2012: 164, see also Bat-El 2006: 67, Shaw 2013, Shaw et al. 2013 and Moreton et al. 2017) AD-type blends have a head, which is usually the right part, the remnant of the second source word. Gries uses semantic criteria and statistical data to reach this conclusion. Shaw, Shaw et al and Moreton et al come to a similar conclusion on the basis of psycholinguistic experiments. However, the AD type, blends tout court, also exhibits a formal head, as claimed by Kubozono (1990:1) and as can be seen in the examples (6) and (7). Examples (6a) and (6b) demonstrate that the gender and the number of a blend is determined by sw2, whereas examples (7a), (7b) and (7c) deal with the resulting part of speech.
(6a) Dutch blends ${ }^{7}$
het potel (n) de Polen + het hotel
'hotel for Polish workers'

[^5]| het preferendum (n) | $<$ de preferentie + het referendum |
| :--- | :--- |
| 'referendum with more options' |  |
| de scheit (common gender) | het schaap + de geit |
| 'mixed breed of sheep and goat' |  |

(6b) German blends
der Kurlaub (m) 'cure vacation’ < die Kur + der Urlaub
das Sportel (n) 'sport hotel' < die Sport + das Hotel
die Datei (sg.) 'file’ < die Daten (pl.) + die Kartei (sg.)
(7a) English blends
simulcast $(N) \quad<$ simultaneous $($ Adj $)+$ broadcast $(N)$
malware $(N) \quad<$ malicious $($ Adj $)+\operatorname{software}(N)$
barkitecture $<\operatorname{bark}(V)+\operatorname{architecture}(N)$
'design of doghouses' $(N)$
(7b) German blends ${ }^{8}$
Naktivist $(N)$ 'naked activist' <nackt $($ Adj $)+$ Aktivist $(N)$
herrklären ( $V$ ) 'mansplain' < Herr $(N)+\operatorname{erklären~}(V)$
Teuro $(N)$ 'nickname for $<$ teuer $($ Adj $)+$ Euro $(N)$
the expensive Euro'
(7c) Dutch blends
vagetariër $(N)$ 'vague $<$ vaag $($ Adj $)+$ vegetariër $(N)$
vegetarian'
krommunicatie $(N) \quad<$ krom $($ Adj $)+$ kommunicatie $(N)$
'crooked communication'
alterneut $(N) \quad<$ alternatief $($ Adj $)+$ therapeut $(N)$
'an unqualified healer'

The examples in (6) and (7) show that the righthand part determines the gender, the number and the part of speech of the blend. The examples in (6a) are simple and clear. In Dutch there are two genders, neuter and common gender.

[^6]The gender of the second source word determines the gender of the blend. The German data of (6b) are somewhat more complicated. German has three genders, male, female and neuter. Again, it is the gender of the second source word which is decisive for the choice of the gender of the blend. The same applies to number as the example Datei (6b) shows.

In $(7 a-c)$ the second source word determines the resulting part of speech. When the second source word is a noun, then the resulting blend also is a noun, whatever the part of speech of the first source word is. However, when the second source word is a verb, as in herrklären, then the final blend is also a verb.

These examples show that blends exhibit a formal head, just as compounds ${ }^{9}$. However, this does not imply that all blends must also have a semantic head. Just as dvanda compounds do not show a semantic head, see for instance singer-songwriter, bittersweet and spacetime, where the meaning is the sum of the meanings of the two constituent words, 'copulative' or dvanda blends such as smog, from smoke and fog, or brunch from breakfast and lunch or Oxbridge from Oxford and Cambridge do not exhibit a semantic head. However, all blends have a formal head, and, in this respect, blends behave as compounds. Thus, the observation of Bauer et al. (2013: 458) that blends behave like compounds semantically may be supplemented with and also formally.

## 5. Prosodic aspects

This section shows how blends copy the prosodic and syllabic structure of the second source word. First stress assignment will be discussed. The second part of this section is devoted to syllable structure and discusses which parts of which source word can be combined.

### 5.1. The stress pattern of blends

Beard (1998:57) was the first to observe that the prosodic structure of blends must be identical with that of the model, being the second source word, sw2. To put it differently: blends tend to copy the stress pattern of the head (see also

[^7]Piñeros 2000 \& 2002; Bat-el 2006; Bat-el and Cohen 2012; Trommer and Zimmerman 2012; Arndt-Lappe and Plag 2013: 558; Moreton et al 2017: 352; Beliaeva 2019b: 7-8; Wulff and Gries 2019: 18-19). The examples in (8) demonstrate the stress pattern of blends. In all the following examples it is the stress pattern of the second source word that determines the stress placement on the resulting blend.

| blend | sw1 | sw2 |
| :--- | :--- | :--- |
| boatél | <boat | + hotél |
| frappucíno | < frappé | + cappuccíno |
| flustáted | < flústered | + frustráted |
| advertórial | <advértisement | + editórial |
| fertigátion | <fértilizer | + irrigátion |
| préstinant | <prestígious | + dóminant |

The last example of (8), préstinant, taken from Arndt-Lappe and Plag (2013), is most convincing. Even when the segmental material of the second source word is not preserved, the suprasegmental prosodic feature stress of this source word retains its strength. ${ }^{10}$ The resulting blend bears stress at exactly the same place as sw2, which is on the first or antepenultimate syllable, notwithstanding the fact that this syllable was unstressed in sw1. Blends appear to consist of one prosodic word, ${ }^{11}$ although they are formed as a concatenation of parts of two separate words. The prosodic shape of a blend is the same as that of sw2. Blends simply copy the primary word stress of the second source word. Phonologically they are a moneme to use a term of Marchand (1969) or following Tomaszewicz (2012) they have the phonotactic structure of simplex words.

[^8]
### 5.1.1. Monosyllabic source words

Bat-El and Cohen (2012) discuss the relation between blending and stress assignment in English in detail. They claim that two factors play a role in determining the position of stress in blends. The first one is position, the second size. ${ }^{12}$ Here it will be argued that position will do for almost all their data.

Bat-El and Cohen (2012) agree that the main pattern of stress placement in blends is a copying process of the prosodic structure of sw2 as in (8), which means that the stressed syllable of the blend is identical to that of the second source word. Stress is position-based in these cases. However, there are exception they show, such as blends with a monosyllabic source word. For these blends size should determine stress assignment. ${ }^{13}$

| blend | sw1 | sw2 |
| :--- | :--- | ---: |
| blógive | < blog | + árchi |
| tankíni | < tank | + bikín <br> momprenéur |
|  | < mom | + entre |
| blend | sw1 | sw2 |
| lúmist | < lúminous | + mist |
| cítrisun | < cítric | + sun |
| éscalift | < éscalator | + lift |

The blends in (9), however, simply follow the stress pattern of sw2 and and should therefore not be considered as exceptional or as counterexamples. The data presented in (10) does not indeed follow the stress pattern of sw2, which, incidentally, is completely predictable. The second source words in (10) are monosyllabic words and thus have no lexical stress (Bat-El and Cohen (2012: 207) or metric pattern or rhythmic contour of their own. After all, stress, metric pattern or rhythmic contour is a matter of contrast. Within monosyllabic words there is only one syllable and thus there exists no contrast between syllables. Consequently, the resulting blend has to copy the only available stress pattern or rhythmic contour, which is the pattern of the first, left, source word. There is no reason to take size as a determining factor in these cases.

However, there are indeed a few real counterexamples.

[^9]
### 5.1.2. Counterexamples

Usually the first source word of a blend contains fewer syllables, and is therefore shorter, than the second one (Kelly 1998). However, this is not a condition as brunch, from breakfast + lunch, demonstrates. When the size of the second source word is smaller than that of the first source word (sw $2<$ sw 1 ), exceptions to standard blend stress assignment may occur, as Bat-El and Cohen (2012) show. In (11), the resulting form adopts the stress pattern of the first, left, source word, sw1, whereas in (12) the stress pattern of the second source word, sw2, is copied. ${ }^{14}$

| (11) | blend | sw1 | sw2 |
| :---: | :---: | :---: | :---: |
|  | húrricoon ${ }^{15}$ | < húrricane | + ballóon ${ }^{16}$ |
|  | hándkerchoo | < hándkerchief | + kerchóo |
|  | quálatex | < quálity | + látex |
| (12) | blend | sw1 | sw2 |
|  | ebónics | < ébony | + phónics |
|  | amerásian | < américan | + ásian |
|  | aggrannóying | < ággravating | + annóying |

Bat-El and Cohen (2012:202) conclude on the basis of these data that there is a certain 'inter-word variation where different words follow minimally different rankings' of constraints. However, they need these different constraints because of the behaviour of blends with a monosyllabic source word as discussed above. As shown in 5.1.1, only a small group of the blends analysed here which result from monosyllabic second source words (cf. 10) does not follow standard blend stress assignment. Here the outcome is the default option. Therefore, monosyllabic source words do not require a size constraint.

[^10]The examples in (12) simply follow the standard blend stress assignment. So, only the data in (11) might be considered to contradict the normal stress copying pattern. However, some of the data in (11) are not very convincing: handkerchoo and qualatex look more like AC concatenation than an AD one, since a full sw2 combines with the first syllable of sw1. They can thus be better described as a sort of stub compounds. Real counterexamples are blends such as hurricoon and ballute, as in (13).

| blend | sw1 | sw2 |
| :--- | :--- | :--- |
| húrricoon | $<$ húrricane | + ballóon |
| ballúte | < ballóon | + párachute |

It should be noted that in ballute the first source word is smaller in size than in the second.

For the right stress placement Bat-El and Cohen (2012) suggest a few faithfulness constraints that preserve the phonological properties of the base words at the segmental level as well as at the level of metrical structure. For the position-based view of stress assignment they suggest two constraints that state that the stressed syllable in the blend corresponds to the stressed syllable in the respective source word. In order to put the stress on the correct syllable of the right word, both constraints are ranked in the following way.
(14) FaithHEadWr >> FaithHEadWL

Since blend stress normally corresponds to that of the right constituent of the blend, the candidate that does not violate stress assignment required by FAITHHEADWr wins. For the size criteria of stress placement Bat-El and Cohen (2012: 199) suggest another constraint: FaithMetricalStructure (FAITHMS), which states that "[t]he metrical structure (number of syllables and stress pattern) of the blend is identical to that of both base words". Different rankings of FaithMS in relation to FaithHEadWr and FaithHEadWl account for the difference in stress assignment.

However, the constraints Bat-El and Cohen propose can easily be simplified. As demonstrated, only blends with a monosyllabic second source word violate systematically FAITHMS, provided that this constraint is split into FaithHEadWl and FaithHEadWr. In order to produce blends with correct placement on the right source word, the ranking of these two constraints must be as in (15).

## (15) FaithHeadWr >> FaithHEadWL

Since the second source words in the examples of (10) do not have any lexical stress or rhythmic contour, faithfulness to the metrical structure of the second source word (Wr) is vacuous. Consequently, the resulting blend remains faithful to the first source word (WL).

The only real counterexamples are blends such as ballúte and húrricoon. These blends show the stress pattern and the syllabic skeleton of the first source word. These examples do not belong to a single category. The source words of ballute follow the normal pattern: sw2>sw1. ${ }^{17}$ In hurricoon it is just the other way around, which is exceptional. One may try to explain the exceptional behaviour of these examples by pointing to the exceptionally large portion that is deleted of sw 2 , parachute, whereby even the place of stress appears to be erased, just as in sw1, balloon. Because of so many and serious violations the contour of the first source word may get priority. However, this explanation sounds rather ad hoc, when one realises that in examples such as (16) the phonemic content of the stressed syllable is deleted without any consequences for the stress pattern.

| (16) | blend sw1$\quad$ sw2 |  |
| :--- | :--- | :--- |
|  | blógive | $<$ blog |
| + árchive |  |  |
| préstinant | $<$ prestígious | + dóminant |

Therefore, it seems better to accept that there is a very small group of exceptions, of which most show a difference in source-word length which is exceptionally sw $2<$ sw 1 . In this group an opposite ranking applies, which means that there are two rankings available in English, of which (15) is the preferred one. However, (17) also exists, which implies that there is a 'crucial non-ranking' between FaithHeadWr and FaithHeadWl.

## FaithMSWL>> FaithMSWR

The fact that there are two possible rankings, of which one is the preferred one, is not exceptional (cf. Hamans 2012 on two possible rankings for Dutch clippings of which one is the preferred ranking).

[^11]
### 5.2. The syllabic structure of blends

Stress assignment is not the only aspect which blends copy from their second source words. Usually, the syllabic structure of blends is also a copy of the syllabic structure of the second source word as the examples in (18) show (see also Kubozono 1990: 5 and 16; Bat-El 2006: 67-68.).

| (18a) | breakfast smoke | $\begin{aligned} & + \text { lunch } \\ & + \text { fog } \end{aligned}$ | $\rightarrow$ brunch $\rightarrow$ smog | onset |
| :---: | :---: | :---: | :---: | :---: |
|  | boat | + hotel | $\rightarrow$ boatel | onset ${ }^{18}$ |
| (18b) | Greek/Greece | + exit | $\rightarrow$ Grexit | onset |
|  | Spanish | + English | $\rightarrow$ Spanglish | onset + nucleus |
|  | gigantic | + enormous | $\rightarrow$ ginormous | onset + nucleus |
| (18c) | stagnation | + inflation | $\rightarrow$ stagflation | $\sigma$ (= syllable) |
|  | Oxford | + Cambridge | $\rightarrow$ Oxbridge | $\sigma$ |
|  | guess | + estimate | $\rightarrow$ guesstimate | $\sigma^{19}$ |
| (18d) | advertisement | + editorial | $\rightarrow$ advertorial | $\sigma \sigma^{20}$ |
|  | education | + entertainment | $\rightarrow$ edutainment |  |
|  | stalker | + paparazzi | $\rightarrow$ stalkerazzi | $\sigma \sigma^{21}$ |

${ }^{18}$ An alternative segmentation for this example may be, especially when one wants to give priority to the orthographic form:
boa $t+$ hotel $\rightarrow$ boatel
In this case a whole syllable consisting of an onset and a nucleus have been truncated from the second source word. Subsequently, the onset and the nucleus of the first source word are inserted. Another alternative might be:
boat + hotel $\rightarrow$ boatel.
In this case a whole open syllable plus the onset of the next syllable must have been truncated. Consequently, a CVC syllable must have been inserted, of which the last consonant has been resyllabified in order to become the onset of the final syllable. However, examples such as Dutch potel 'hotel for Polish immigrant workers' from Polen + hotel or stutel 'student hotel', without final $-t$ at the end of the first source word, make this last segmentation unlikely.
${ }^{19}$ An alternative segmentation may be:
guess + estimate $\rightarrow$ guesstimate
In this case only the empty onset of the first syllable of the second source word has been truncated and replaced by the onset of the first source word.
${ }^{20}$ An alternative segmentation could be:
advertisement + editorial $\rightarrow$ advertorial.
However, a form such as prefatorial, from preface without a $-t$ makes this segmentation unlikely.
${ }^{21}$ An alternative segmentation may be:
stalker + paparazzi $\rightarrow$ stalkerazzi.

The examples presented here demonstrate that it is the syllabic structure of the second source word which determines the syllabic structure of the blend. Exactly as much syllabic material as has been truncated from sw2 may be taken from sw1 and inserted in the open syllabic places of sw2. If only an onset has been truncated from the second source word, then only an onset can be inserted.

It must be emphasized that it is not segmental material that is truncated and inserted but syllables and/or syllabic constituents. It should be noted, for example, that empty onsets can be truncated and refilled as in glasphalt, where the first syllable of sw2, as, does not include a realized onset. A similar insertion applies to donkephant from donkey and elephant. The syllable el without a realized onset is replaced by a syllable with a filled onset, donk.

In addition, the first syllable of the blend can exhibit a two-place coda instead of a one place coda as in Oxbridge with $/ \mathrm{ks} /$ as coda instead of $/ \mathrm{m} /$ from Cambridge, since this does not make any difference in terms of syllabic structure. It also appears possible to fill a one place onset with a cluster consisting of two or three consonants as is shown in the series glitterati from glitter + literati, clitterati from clitoris and literati and splitterati from split and literati. ${ }^{22}$ These examples clearly demonstrate that it is the sw 2 syllabic structure in terms of constituents and not in terms of segmental material that determines the outcome of the blending process. In addition, a blend with a two or three place onset, where swl contained a one place onset only, is fully well formed, since English onsets can consist of more than one consonant.

[^12]Arndt-Lappe and Plag (2012a, 2012b and 2013) claim that truncation is also possible within a complex onset of sw2. They come to a total of $30 \%$ (Arndt-Lappe and Plag 2013: 548). However, the results of the production experiment they quote are not convincing. The subjects in the experiment were asked to coin blends out of two structurally highly similar source words, which thus resulted in dvanda blends only. Subsequently the testees were forced to blend the two source words in a specified order. They were also asked to blend source words which normally appear in a fixed expression such as black and white, bread and butter and import and export, and therefore oppose blending. The chance of strange results cannot be ruled out in these cases. In addition, Arndt-Lappe and Plag did not investigate the acceptability of the obtained forms. For instance, one of the results of the experiment are the possible blends bleen and breen from blue and green. However, since the blend breen already exists, as a result of brown + green and meaning 'brownish green' it is obvious that test subjects may turn to an alternative. ${ }^{23}$ However, as far as can be concluded from the few results Arndt-Lappe and Plag present the deleted part of the onset of sw2 can only be filled with a structurally similar part from the onset of sw1, which means that even in the case of truncation within a complex onset the syllabic structure of the blend still remains a copy of the syllabic structure of sw2.

### 5.2.1. The length of blends

Kubozono (1990: 12) claims that blends consist of the same number of syllables as their sw2. Kubozono's rule confirms Cannon's observation and the outcome of Hong's statistical analysis more or less that blends tend to consist of the same number of syllables as the longest source word or maximally may contain one syllable more (Cannon 1986: 741; and Hong 2004: 134). Although most of the examples presented here and elsewhere follow Kubozono's rule, there are a few counterexamples, as will be shown. ${ }^{24}$

[^13]Incidentally it appears to be possible to insert more syllabic material as in the following examples.

| sw1 | sw2 |  |
| :--- | :--- | :--- |
| aggravating + annoying | $\rightarrow$ aggrannoying |  |
| happen | + accident | $\rightarrow$ happenident ${ }^{25}$ |
| vodka | + martini | $\rightarrow$ vodkatini |

Usually, the explanation for the extra syllable(s) or syllabic constituent(s) can be found in the need for recognizability and retrievability of the original source words, see for instance (20).

| sw1 | sw2 | blend |
| :--- | :--- | :--- |
| hurricane | + typhoon | $\rightarrow$ hurricoon |
| ebony | + phonics | $\rightarrow$ ebonics |
| American | + Asian | $\rightarrow$ Amerasian |

In hurricoon truncation of the first syllable of sw2 and subsequent insertion of the first syllable of sw1 into the skeleton of sw2 would have led to a form huphoon, which is semantically opaque, since it apparently does not refer clearly enough to hurricane. In the second example ebonics it is not immediately clear what has been truncated from sw2, as is often the case with overlap blends. It may be an onset only, or the first syllable or a syllable plus the following onset. However, each resulting blend, be it eonics, enics or ebnics, would have been ill formed or non-retrievable. The semantic transparency of all these possible forms turns out to be insufficient, while maintaining the overlapping portion on provides just enough clues to recognize both source words. The example Amerasian demonstrates clearly why more material must be inserted than what has been truncated. Truncation of the first syllable of sw2, thus of the segment $a s$, and subsequently insertion of the first syllable of sw1, thus am, would have resulted in Amian, a form in which neither Asian nor

[^14]American could have been recognized or retrieved. Therefore, no element of sw2 has been truncated and two easily recognizable syllables have been supplemented to make the ultimate form semantically transparent. ${ }^{26}$

The examples (19) show a similar picture. Truncation of the first syllable of sw2 and subsequent insertion of the first syllable of sw1 would have led to the following blends. The respective syllables of the source words that matter are italicized.

| sw1 | sw2 | $\quad$ failed blend |
| :--- | :--- | :--- |
| aggravating | + annoying | $\rightarrow$ annoying |
| happen | + accident | $\rightarrow$ happident |
| vodka | + martini | $\rightarrow$ vodtini ${ }^{27}$ |

It is clear why annoying, being identical to sw2, is not acceptable as a blend both formally and semantically. The case of happident is different. This blend generates unwanted associations. The segment dent seems to be more directly associated with dental than with accident. Actually, Happydent exists as a trade name for a chewing gum that claims to provide a fresh breath. Vodtini apparently lacks a direct association with vodka.

Although there are only a few examples found in the literature about English blends that do not follow Kubozono's length rule, counterexamples are also found in other languages as, for instance, in Dutch.

| sw1 | sw2 | blend | gloss |
| :---: | :---: | :---: | :---: |
| anachronisme | + acroniem | $\rightarrow$ anacroniem | 'acronym derived |
|  |  |  | from an outdated phrase' (e.g. radar ${ }^{28}$ ) |

[^15]\[

$$
\begin{aligned}
& \text { democratie } \quad+\text { dictatuur } \rightarrow \text { democratuur }{ }^{29} \text { 'dictatorship by a } \\
& \text { democratically } \\
& \text { elected leader' }
\end{aligned}
$$
\]

In acronym the first syllable $a$ is truncated. Subsequently two syllables, $a+$ $n a$, are inserted. ${ }^{30}$ If only the first syllable of anachronism would have been inserted the resulting blend would have been identical to sw2 and thus not acceptable as a blend. The second example democratuur is more complicated. In dictatuur the first syllable dic is truncated plus the onset of the following syllable, $t$. The 'correct' blend demtatuur is semantically not transparent. Therefore, one better inserts more material: in this case an extra syllable. This leads to the insertion of the two syllables $d e+m o$ plus a following onset $k r$, spelled out as $c r$.

The extra syllables $a$ and $d e$ in $a$ nacroniem and democratuur can be described as unparsed. In fact, such an extra, unparsed, syllable does not affect the overall picture that blends copy the syllabic structure of the second source words, of which the remnant becomes the formal head of the blend. Also, in this respect the blend remains one phonological word.

## 6. Cut-off point

A problem that implicitly has been touched on in the preceding paragraph is where to cut off the second source word. This problem will not be discussed extensively here, since it requires another kind of research than the analysis presented here. So far, it is clear that the cut-off point ${ }^{31}$ falls on a syllable boundary or on the boundary between and onset and a rhyme (cf. Kubozono 1990; Kelly 1998; Plag 2003: 123-125; Bauer 2012: 16). In addition, ArndtLappe and Plag (2013: 550, 558) rightly emphasize that the cut-off point should be to the left of the stressed syllable of sw2. Moreover, the examples discussed show that what has been cut off from sw2 should be supplemented

[^16]from the initial segment of sw1. However, the decision whether an onset, an onset plus nucleus or a syllable or even more should be truncated seems arbitrary, although it is evident that one cannot delete a whole syllable from a monosyllabic source word. Gries (2004 and 2006) shows that the recognizability or recoverability of the original source word or of similar lexical competitors - forms with a similar form and meaning - plays an eminent role in the selection of the cut-off point. "While blends exhibit many structural characteristics, their structure is governed by a desire to guarantee the recognizability of both source words" (Gries 2004: 661). To describe the similarity between blends and their source words Gries (2004) develops a similarity index, which precisely quantifies these similarities, and which shows that there is a much higher degree of similarity between accepted blends and their source words than between randomly created blend-like formations and their source words. However much the sophisticated analyses by Gries lead to clear and quantified results, they do not offer an explanation. Beliaeva (2014b, 2015 2016) builds on Gries's research. She mainly focuses on the recognizability of the source words in the final concatenations and confirms his finding that stub compounds tend to split much earlier than blends and thus preserve much less of their source words than would be optimal for their recognizability (Beliaeva 2014: 27).

In fact, it is the semantic transparency that determines the cut-off point of felicitous blends. That is why Hamans (2010) points to Zabrocki's theory of diacrisis and his notion of confusivum for an explanation. Zabrocki (1962 and 1969) expands the notion of minimal pair. He compares segments that differ in more respects than one phoneme or feature only. He calls the corresponding parts of lexemes confusive segments or confusiva. For instance, the lexemes crack and pack are not a minimal pair since the first one starts with a consonant cluster, whereas the initial segment of pack is only one consonant. Nevertheless, crack and pack share an equal segment, the confusivum ack. A felicitous blend must contain confusiva with both source words that are large enough to trigger recognition of the original form and thus a semantic interpretation in the mind of the listener. How large a transparent confusivum must be to achieve this result has still to be decided. The specificity of the segment compared to the corresponding lexemes, ${ }^{32}$ the frequency of the source words and

[^17]the actual length of the confusion relative to the source word probably all play a role in the recognition of the source words.

Since the speaker or the word coiner formally starts with truncation of the second source word when he wants to introduce a new blend, he is obliged to keep as much material of sw2 as possible - a maximal or optimal confusivum - so that this part can easily traced back to the full original. After all, for a felicitous blend the confusivum should be large enough to be easily traceable. Subsequently the speaker must fill the truncated syllabic position(s) with corresponding material of sw 1 . The segmental material taken from sw 1 also forms a confusivum with the original source word and with similar lexical competitors. When this confusivum is not large enough to make it easily traceable the open place in sw2 caused by truncation may be filled with more syllabic constituents from sw1. Even an unparsed initial syllable may be added as has been shown. Gries' (2004a, 2004b, 2006 and 2012). metrical and statistical procedures may be useful to determine when a remaining part can easily be traced back. Gries (2006: 540 and 2012: 162) introduces the notion recognition point, RP, of a word. "This is the point of a word form at which a majority of speakers (e.g. $85 \%$ ) can recognize this word with a high probability (e.g. 80\%) when presented with parts of W." Gries supposes that the cut-off point - here called selection point SP - is approximately the same as RP (Gries 2006: 544). However, both of his studies focus on the question of the difference between blends and stub compounds, just as Beliaeva (2014b, 2015, 2016) and not on the optimal length of the confusiva of a blend. In addition, Gries does not take into account the fact that blends copy the syllabic structure of sw2. Therefore, it is still unclear which factors exactly play a role in determining the cut-off point and what the possible interdependence of these factors can be. This is a matter for further psycholinguistic research just as the role of the overlap in blends such as slanguage from slang and language. An overlap undoubtedly increases the recognizability and therefore the acceptability of a blend, as already demonstrated by Beliaeva (201b, 2015, 2016). However, an overlap is not a condition for a felicitous blend as most of the examples discussed here show.

[^18]
## 7. Blends as an Intermediate Category

In Section 4, it is demonstrated that blends and compounds share the characteristic of the righthand part as their formal head. The head determines the grammatical properties of the blend. Insofar the concatenation of parts of two source words that results in a blend behaves as if it was a compound or to use the terminology of Marchand (1969) a syntagma. In this respect there is no difference with stub compounds.

However, phonologically blends cannot be described as a sort of compounds. The constituents of a compound form each a prosodic or phonological word in English and Dutch (Booij 1985: 29, 1995: 49; Rakić 2014). So, bluebird and greenhouse consist of two phonological words each, just as the stub compounds sitcom and midcult. However, the constituents of a blend together form one phonological word, as has been shown in Section $5{ }^{33}$ This phonological word is normally a copy of the prosodic structure of the second source words, the base of the righthand part.

Most of the second source words which pop up in blends are underived, monomorphemic thus simplex words. Consequently, most blends can also be described as simplexes from a phonological point of view or as monemes to use Marchand's term (Marchand 1969). Since blends combine characteristics of compounds and of simplex words at the same time, they should be described as an intermediary category.

Even blends which have a derived word as second source word do not contradict this observation. All the complex words that can act as second source word and that are presented here contain a vowel initial suffix. Such words form a single prosodic word, as Raffelsiefen (1999) demonstrated.
(19a) blends with sw 2 ending in-ish

| Blend | sw1 | sw2 |
| :--- | :--- | :---: |
| Spanglish | $<$ Spanish | + English |

[^19](19b) blends with sw 2 ending in -ial

| blend | sw1 | sw2 |
| :--- | :--- | :--- |
| advertorial | $<$ advertisement |  |
| + editorial |  |  |

(19c) blends with sw 2 ending in -ity

| blend | sw1 | sw2 |
| :--- | :--- | :---: |
| flexicurity | $<$ flexible | + security |

(19d) blends with sw 2 ending in -er

| blend | sw1 | sw2 |
| :--- | :--- | :--- |
| compander | $<$ compressor | + expander |

(19e) blends with sw 2 ending in -ation blend sw1 sw2 fertigation < fertilize + irrigation

The resulting blends each form one phonological word, just as the second source word of which they are a phonological copy. In terms of word formation blends appear to behave as compounds, however from a phonological perspective they consist of only one prosodic word (cf. Arndt-Lappe and Plag 2013: 538).

## 8. Conclusion

The analysis presented here shows that:

- There is an essential formal difference between AD-blends and ACclipped compounds or better stub compounds. Stub compounds are compounds of two clipped lexemes.
- Being compounds, stub compounds have a righthand head and exhibit the compound stress rule.
- Blends are also concatenations of parts of two source words. However, blends are composed of the initial or left-hand part of the first source word and the final or righthand part of the second source word. These parts are not normally free morphemes. 'Part of a source word' may also include the entire source word.
- Blends also exhibit a formal righthand head, which suggests that blending is a form of compounding.
- However, the compound stress rule does not apply to blends.
- Blends form a single phonological word, which is a copy of the prosodic and syllabic properties of the second source word.
- Therefore, blends can best be described as a borderline or intermediate case between compounds and simplex words, especially in the case of blends derived from a monomorphemic second source word.
- Blends are a category of their own at the crossroads of morphology and phonology.


## References

Arndt-Lappe, Sabine and Ingo Plag. 2012a. Phonological variability in English blends. Paper presented at The 20th Manchester Phonology Meeting, 24-26 May, 2012.
Arndt-Lappe, Sabine and Ingo Plag. 2012b. Phonological variability in English blends. Paper presented at the Conference 'Data-Rich Approaches to English Morphology: From corpora and experiments to theory and back'. Wellington New Zealand, 4-6 July 2012.
Arndt-Lappe, Sabine and Igno Plag. 2013. The role of prosodic structure in the formation of English blends. English Language and Linguistics 17. 537-563.
Ayto, John. 2003. Newspapers and neologisms. Jean Aitchinson and Diana M. Lewis (eds.). New Media Language. London/New York: Routledge: 182-186.
Balteiro, Isabel and Laurie Bauer. 2019. Introduction. Lexis 14.
Bat-El, Outi. 2006. Blend. In Keith Brown (ed.), Encyclopedia of language and linguistics (2nd edn, vol. 2), 66-70. Oxford: Elsevier.
Bat-El, Outi and Evan-Gary Cohen. 2012. Stress in English blends: A constraint based analysis. In Vincent Renner, François Maniez and Pierre Arnaud (eds.), 193-211. Crossdisciplinary perspectives on lexical blending. Berlin: De Gruyter Mouton.
Bauer, Laurie. 1983. English word-formation. Cambridge: Cambridge University Press.
Bauer, Laurie. 1994. Watching English change. An introduction to the study of linguistic change in standard Englishes in the twentieth century. London \& New York: Longman.
Bauer. Laurie. 2006. Compounds and minor word-formation types. In Bas Aarts and April McMahon (eds.), The handbook of English linguistics, 483-506. Malden, MA: Blackwell.
Bauer, Laurie. 2012. Blends: Core and periphery. In Vincent Renner, François Maniez and Pierre Arnaud (eds.), Crossdisciplinary perspectives on lexical blending, 1122. Berlin: De Gruyter Mouton:

Bauer, Laurie. 2019. Rethinking morphology. Edinburgh: Edinburgh University Press.
Bauer, Laurie, Rochelle Liber and Ingo Plag. 2013. English morphology. Oxford: Oxford University Press.

Beard, Robert. 1998. Derivation. In Andrew Spencer and Arnold M. Zwicky (eds.), The handbook of morphology, 44-65. Oxford: Blackwell.
Beliaeva, Natalia. 2014a. A study of English blends: From structure to meaning and back again. Word Structure 7: 29-54.
Beliaeva, Natalia (2014b). Unpacking contemporary English blends: Morphological Structure, meaning, processing. Wellington: University of Victoria. PhD Thesis. Available at <https://researcharchive.vuw.ac.nz/xmlui/bitstream/handle/10063/ 3619/thesis.pdf?sequence $=2>$.
Beliaeva, Natalia. 2015. Blends at the interface between compounding and clipping: Evidence from readers' evaluations. Neologica 9. 205-219.
Beliaeva, Natalia. 2016. Blends at the intersection of addition and subtraction: Evidence from processing. SKASE, Journal of Theoretical Linguistics [online] A 13(2). 23-45.
Beliaeva, Natalia. 2019a. Blending in morphology. In Mark Aronoff (ed.), Oxford Research encyclopedia of linguistics. Oxford: Oxford University Press.
Beliaeva, Natalia. 2019b. Blending creativity and productivity: On the issue of delimiting the boundaries of blends as a type of word formation. Lexis 14 .
Berg, Thomas. 2011. The clipping of common and proper nouns. Word Structure 4. 119.

Booij, Geert. 1985. The interaction of phonology and morphology. In Edmund Gussmann (ed.), Phono-morphology. Studies in the interaction of phonology and morphology, 23-34. Lublin: Redakcja Widawnictw Katolickiego Uniwersytetu Lubelskiego.
Booij, Geert. 1995. The phonology of Dutch. Oxford: Clarendon Press.
Booij, Geert. 1999. The role of the prosodic word in phonotactic generalizations. In T. Alan Hall and Ursula Kleinhenz (eds.), Studies on the phonological word. Amsterdam: John Benjamins.
Brdar-Szabo, Rita and Mario Brdar. 2008. On the marginality of lexical blending. Jezikoslovlje 9, 171-194.
Bryant, Margaret. 1974. Blends are increasing. American Speech 49. 163-184.
Cannon, Garland. 1986. Blends in English word formation. Linguistics 24. 725-753.
Cannon, Garland. 2000. Blending. In Geert Booij et al (eds.), Morphologie/Morphology: Ein Internationales Handbuch Zur Flexion und Wortbildung, 952-956. Berlin: De Gruyter.
Chomsky, Noam and Morris Halle. 1968. The Sound Pattern of English. New York: Harper \& Row.
Conolly, Patrick. 2013. The innovation and adoption of English lexical blends. Journal IPP 2. 1-14.
DiGirolamo, Cara M. 2012. The fandom pairing name. Blends and the phonologyorthography interface. Names: A Journal of Onomastics 60. 213-243.
Dixon, Robert M.W. 2014. Making new words. Morphological derivation in English. Oxford: Oxford University Press.
Giegerich, Heinz J. 1985. Metrical phonology and phonological structure - German and English. Cambridge: Cambridge University Press.
Gries, Stefan Th. 2004a. Shouldn't it be breakfunch? A quantitative analysis of blend structure in English. Linguistics 42. 639-667.

Gries, Stefan Th. 2004b. Isn't that fantabulous? How similarity motivates intentional morphological blends in English. In Michael Achard and Suzanne Kemmer (eds.), Language, culture and mind, 415-428. Stanford: CSLI Publications.
Gries, Stefan Th. 2006. Cognitive determinants of subtractive word formation processes: A corpus-based perspective. Linguistics 17. 535-558.
Gries, Stefan Th. 2012. Quantitative corpus data on blend formation: Psycho- and cognitive linguistic perspectives. In Vincent Renner, François Maniez and Pierre Arnaud (eds.), 145-167. Cross-disciplinary perspectives on lexical blending. Berlin: De Gruyter Mouton.
Hamans, Camiel. 2010. The productivity of blending: linguistic or cognitive? Or how to deal with administrivia and ostalgia. In Danuta Stanulewicz, Tadeusz Z. Wolański and Joanna Redzimska (eds.), Lingua terra cognita II. A Festschrift for professor Roman Kalisz, 467-490. Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego:
Hamans, Camiel. 2012. From prof to provo: Some observations on Dutch clippings. In Bert Botma and Roland Noske (eds.), Phonological explorations: Empirical, theoretical and diachronic issues, 25-40. Berlin: Mouton de Gruyter.
Hamans, Camiel. 2017. Language change and morphological processes. Yearbook of the Poznań Linguistic Meeting 3. 1-23.
Hamans, Camiel. 2018a. Between stub compounds and blends. In Virginija Masiulionyté and Skaisté Volungevičiené (eds.), Fremde und Eigene Sprachen. Linguistische Perspektive. Foreign and own languages. Linguistic perspectives. Akten des 51 Linguistischen Kolloquiums in Vilnius, Linguistic Colloquium in Vilnius 2016. Berlin. 353-371 .
Hamans, Camiel. 2018b. Between Abi and Propjes: Some remarks about clipping in English, German, Dutch and Swedish. SKASE, Journal of Theoretical Linguistics [online] 15(2). 24-59.
Hildebrandt, Kristine A. 2015. The prosodic word. In John R. Taylor (ed.), The Oxford handbook on the word, 221-245. Oxford: Oxford University Press.
Hong, Sung-Hoon. 2004. Properties of English word-blends: Structural description and statistical distribution. English Language and Linguistics 18. 117-140.
Kelly, Michael H. 1998. To "brunch" or to "brench": Some aspects of blend structure. Linguistics 36. 579-590.
Kubozono, Haruo. 1990. Phonological constraints on blending in English as a case for phonology-morphology interface. In Geert Booij and Jaap van Marle (eds.), Yearbook of Morphology 1990, 1-20. Dordrecht: Kluwer.
Lappe, Sabie. 2007. English prosodic morphology. Dordrecht: Springer.
Lehrer, Adrienne. 2006. Neologisms. In Keith Allan (ed.), Concise encyclopedia of semantics, 628-631. Amsterdam, Boston etc.: Elsevier.
Mattiello, Elisa. 2013. Extra-grammatical morphology in English. Berlin/Boston: De Gruyter Mouton.
Mattiello, Elisa. 2019. A corpus-based analysis of new English blends. Lexis 14.
Marchand, Hans. 1969. The categories and types of present-day English word-formation. München: Beck.

Moreton, Elliott, Jennifer L. Smith, Katya Pertsova, Rachel Broad and Brandon Prickett. 2017. Emergent positional privilege in novel English blends. Language 93(2). 347-380.
Nespor, Marina and Irene Vogel. 1986=2007². Prosodic phonology. With a new introduction. Berlin/New York: Mouton de Gruyter.
Pajerová, Kristina. 2018. Blends in het Nederlands [Blends in the Dutch language]. Olomouc: Palacký University. Master thesis.
Peperkamp, Sharon. 1997. Prosodic words. The Hague: Holland Academic Graphics.
Peperkamp, Sharon. 1999. Prosodic words. Glot International 4(4). 15-16.
Piñeros, Carlos E. 2000. Word-blending as a case of non-concatenative morphology in Spanish. ROA (Rutgers Optimality Archive) 343-0999.
Piñeros, Carlos E. 2002. The creation of portmanteaus in the extragrammatical morphology of Spanish. ROA (Rutgers Optimality Archive) 562-0602. [Also 2004. Probus 16. 203-240.]
Plag, Ingo. 2003. Word-formation in English. Cambridge: Cambridge University Press.
Rakić, Stanimir. 2014. The prosody and quantity of English compounds. Journal of Foreign Language Teaching and Applied Linguistics 1(2). 277-287.
Raffelsiefen, Renate. 1999. Phonological constraints on English word formation. In Geert Booij and Jaap van Marle (eds.), Yearbook of Morphology 1988, 225-287.
Renner, Vincent. 2015. Lexical Blending as Wordplay. In Angelika Zirker and Esme Winter-Froemel (eds.), Wordplay and metalinguistic/metadiscursive reflection, 119-133. Berlin: De Gruyter.
Renner, Vincent. 2018. Structural borrowing in word-formation: An explanatory overview. SKASE, Journal of Theoretical Linguistics [online] 15(2). 2-12.
Renner, Vincent. 2019. French and English lexical blends in contrast. Languages in Contact 19. 27-47.
Renner, Vincent, François Maniez and Pierre J.L. Arnaud. 2012. Introduction: A bird's eye view of lexical blending. In Renner, Vincent, François Maniez and Pierre J.L. Arnaud (eds.), Cross-disciplinary perspectives on lexical blending, 1-9. Berlin/Boston: De Gruyter Mouton.
Schoenfeld, Aviv, Evan Gary Cohen and Outi Bat-El. 2019. Variable base-word positioning in English blends. Lexis 14.
Shaw, Katherine E.. 2013. Head faithfulness in lexical blends: A positional approach to blend formation. Chapel Hill: University of North Carolina. Master thesis. Available at: <www.academia.edu/12037985/Head_Faithfulness_in_Lexical_ Blends_2013_>.
Shaw, Katherine $\bar{E} .$, Andrew M. White, Elliott Moreton and Fabian Monrose. 2014. Emergent faithfulness to morphological and semantic heads in lexical blends. John Kingston, Claire Moore-Cantwell, Joe Pater and Robert Staubs (eds.), Proceedings of Phonology 2013. Available at [http://journals.linguisticsociety.org/proceedings/index.php/amphonology/article/view/45/51](http://journals.linguisticsociety.org/proceedings/index.php/amphonology/article/view/45/51).
Spencer, Andrew. 1998. Morphophonological operations. In Andrew Spencer and Arnold M. Zwicky (eds.). The handbook of morphology. Oxford: Blackwell: 123143.

Trommer, Jochen and Eva Zimmermann. 2012. Portmanteaus as generalized templates. In Vincent Renner, François Maniez \& Pierre Arnaud (eds.), 233-258. Crossdisciplinary perspectives on lexical blending. Berlin: De Gruyter Mouton.
Tomaszewicz, Ewa. 2012. Output-to-output faithfulness in the phonological structure of English blends. In Vincent Renner, François Maniez \& Pierre Arnaud (eds.), Crossdisciplinary perspectives on lexical blending, 213-232. Berlin: De Gruyter Mouton:
Wurzel, Wolfgang U. 1980. Der deutsche Wortakzent: Fakten-Regeln-Prinzipien. Zeitschrift für Germanistik 3. 299-318.
Williams, Edwin. 1981. On the notions 'lexically related' and 'head of a word'. Linguistic Inquiry 12. 245-274.
Wulff, Stefanie and Stefan Th. Gries. 2019. Improving on observational blends research: Regression modelling in the study of experimentally-elicited blends. Lexis 14.

Zabrocki, Ludwik. 1962. Phon, Phonem und distinktives Morphem. Biuletyn Fonograficzny 5. 59-87.
Zabrocki, Ludwik. 1969. Phonologie und distinktive Morphologie. In Al Graur et al. (eds.), Actes du Xe Congrès International des Linguistes, 367-375. Bucharest: Editions de l'Académie de la République socialiste de Roumanie. Vol. 1:
Zwicky, Arnold. 2010. Libfixes. [https://arnoldzwicky.org/2010/01/23/libfixes/](https://arnoldzwicky.org/2010/01/23/libfixes/)

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[^0]:    ${ }^{1}$ Against a.o. Conolly (2013: 3) who claims that blending is irregular and unpredictable.

[^1]:    ${ }^{2}$ However, the number of suffixations in his corpus remains a multiple of that of "abbreviations, blends and shortenings". The number of suffixations dropped from 289 to 222 between 1880 and 1982. The number of blends increased from 7 to 16 and of shortenings (clipped forms and back formations) from 13 to 17 during the same period. What Bauer calls abbreviations are letter words and acronyms. Their number increased from 2 to 13 .

[^2]:    ${ }^{3}$ However, Dixon (2014: 69) mentions blends only once in his book entitled Making new words. He warns that what he calls "analogical adaptations" - series formed on the basis of models such as landscape or Watergate - should not be confused with blends. Of the latter he only gives four well-known examples, smog, brunch, Lewis Carrol's chortle and Oxbridge.

[^3]:    ${ }^{4}$ An anonymous reviewer also wonders whether a third category containing one or two source words in full should perhaps not be distinguished. (S)he gives the following blends from the OED as examples: cannabutter, freegan, listicle, anecdata and voluntourism. As the remainder of this paper will demonstrate, the first three examples are perfect AD blends: cannabutter $<$ cannabis + peanut butter, freegan $<$ free + vegan and listicle $<$ list + article. In these examples two respectively one syllable has been truncated from sw2 and exactly the same number of syllables of sw1 has been inserted in sw2. OED's suggestion that cannabutter is a blend from cannabis and butter must be rejected. It is much more likely that sw 2 of cannabutter is peanut butter. The next example anecdata ( < anecdotal + data), with main stress on the first syllable, turns out to be a well- formed AC stub compound. The final example voluntourism (<voluntary + tourism) is unclear. The stress pattern as given in the OED with main stress on the prefinal syllable and secondary stress on the first suggests that the form is an AD blend. The first two syllables in voluntourism are then unparsed as will be shown in Section 5 and 6.

[^4]:    ${ }^{5}$ Bauer (2019: 92) correctly concludes that semantically not all stub compounds are headed. Some are coordinated, take for example modem. However, this does not differ from normal compounds (or from blends as will be shown) where one also finds dvanda compounds such as singer-songwriter or secretary-treasurer.

[^5]:    ${ }^{6}$ The free form pic is not the result of the occurrence in the stub compound biopic, as an anonymous reviewer correctly remarks. Pic is attested long before biopic according to the OED (1884 versus 1947). Neither the free form bio results from this kind of stub compounds. According to OED, it is already attested in 1925.
    ${ }^{7}$ Examples from Pajerová (2018).

[^6]:    ${ }^{8}$ Even the orthography of the German examples shows which part is the head. In Naktivist and Teuro the original adjectival parts $n(a k t)$ and teu(er) receive substantive Großschreibung 'capitalization' since the resulting blend is a substantive due to the second source word. In herrklären it is just the other way around: the substantive Herr has to give up its capital letter since the blend is a verb due to the verbal character of the righthand part, the head.

[^7]:    ${ }^{9}$ Renner (2019: 40) points out that languages, such as French and Modern Hebrew, in which compounds are canonically left-headed, behave differently in this regard. They do not exhibit a preferred head position.

[^8]:    ${ }^{10} \mathrm{An}$ anonymous reviewer suggests that the antepenultimate stress in préstinant can be explained as a result of analogy with other words ending in -inant in English. This might be correct, however, stress is on the first syllable in disciplinant according to OED and not on the antepenultimate. But even if this example were a matter of analogy, stress in the blend still falls on the same structural position as in sw2.
    ${ }^{11}$ The notion prosodic or phonological word stands in opposition to the notion grammatical word (Booij 1999: 47). "Prosodic words are typically characterized as being the domain of word stress, phonotactics and segmental word-level rules" (Peperkamp 1999: 15). The size of the prosodic or phonological word does not have to correspond with the morphological word. For instance, compounds in English, German and Dutch consist of two prosodic words. (On prosodic words see also Nespor and Vogel ( $1986=2007^{2}$, 109-144, Peperkamp 1997 and Hildebrandt 2015)

[^9]:    ${ }^{12}$ Size is considered to be the main factor for stress assignment in blends by Cannon (1986).
    ${ }^{13}$ Examples (9) and (10) taken from Bat-El and Cohen (2012).

[^10]:    ${ }^{14}$ Examples (11) and (12) taken from Bat-El and Cohen (2012).
    ${ }^{15}$ Bat-El and Cohen claim that he stress assignment for hurricoon and handkerchoo is as presented in (11). An anonymous reviewer doubt whether this is correct, since -oo(n) is typically a stressed ending in English. If the stress remains on the final syllable in hurricoon and handkerchoo these forms cease to be counterexamples. Unfortunately, these forms are not yet attested in the OED.
    ${ }^{16}$ Elsewhere hurricoon is presented as a blend of hurricane and typhoon or monsoon (Lehrer 2006: 629), which sounds more likely.

[^11]:    ${ }^{17}$ According to Schoenfeld, Cohen and Bat-El (2019:1) this order follows Pāṇini's law, which says that shorter phrases and elements should precede longer ones where possible.

[^12]:    Also, in this case the deletion and insertion will affect two possible syllables.
    ${ }^{22}$ In a discussion of 'Fandom Pairing Names' (FPN), a sort of nicknames, DiGirolamo (2012) shows that FPN blends have a preference for complex onsets, which may influence the selection of the order of the respective source words. In other words, other things being equal, the source word with the more complex onset will become sw1, since the longer the onset the greater the recognisability of sw1. For instance, Brooke and Peyton $\rightarrow$ Breyton and not *Pooke In addition, an onsetless syllable will be given an onset: Paige and Alex $\rightarrow$ Palex and not *Apaige. The FPN blends discussed by DiGirolama are all coordinative or dvanda blends, thus without a semantic head. It is unlikely that with subordinate, also called endocentric or determinative, blends the selection of the order of the source words can also be determined by the complexity of the onset. In subordinate English blends the order is fixed by the head modifier relationship: the head is the right part, whereas the left part functions as modifier, as shown in paragraph 4 (cf. Bet-El 2006: 68). The results presented by Gries (2012: 164) contradict the outcome of the analysis of DiGirolamo. According to Gries the length of the source words determines the order in coordinative blends: the shorter source word takes the left position.

[^13]:    ${ }^{23}$ Actually, the blend bleen has been attested. The philosopher Nelson Goodman coined bleen and grue in Fact, fiction and forecast (1983). He just choose these forms since the blends breen and glue, from green + blue, existed already. Arndt-Lappe and Plag also obtained grue as a resulting blend next to glue.
    ${ }^{24}$ The data presented in Renner (2019) suggest that there is a sizeable minority of English blends that have the same length as sw1. However, Renner does not make a difference between AC and Ad blends in this study. Hence his observations are not very helpful here.

[^14]:    ${ }^{25}$ This example and the next one are taken from Mattiello (2013: 132-133). Mattiello also presents an example in which less material is inserted than deleted: fanzine from fan + magazine. According to the analysis presented here the resulting blend should have been fanazine, which also exists. A quick Google search (28.01.2020) shows 3,220 hits for fanazine. However, fanzine is the most preferred form ( $13,000,000$ hits). Maybe one better describes the segment -zine as a rather productive libfix (cf. Hamans 2017: 15). For the notion libfix, see Zwicky (2010). For the use of Google data, see fn. 27 .

[^15]:    ${ }^{26}$ Retrievability is, as an anonymous reviewer rightly points out, a relative notion. No naïve language user will be able to recognize swl smoke in the lexicalized blend smog. Just because the term has been defined and explained referring to smoke and fog or because it has been used regularly in a context where no other interpretation is possible, the blend smog could be widely accepted. See also fn. 32. Consequently, one cannot completely rule out a possible blend amian theoretically.
    ${ }^{27}$ A quick Google search (28.01.2020) attested the blend vodkini. However, there are only 191 hits for vodkini against 78,300 for vodkakini. These numbers are not presented as reliable data about the occurrence of the two alternatives. They are only given to show the difference in preference.
    ${ }^{28}$ Radar is an acronym for radio detection and ranging.

[^16]:    ${ }^{29}$ Alternative segmentations may be proposed, such as democratie + dictatuur or democratie + dictatuur. However, this does not make any difference for the argument
    ${ }^{30}$ One can also describe anacroniem as a blend where no truncation of a part of sw2 has taken place. In this case the empty onset of the first syllable of acronym is filled by the initial segment an from anachronism. The result is the same: an extra syllable is added to the blend. Truncation of a segment of the second source word is not mandatory as the examples slanguage, guesstimate and glasphalt discussed before show.
    ${ }^{31}$ Also called crossover point (Bauer 2012: 16) or switch point (Bat-El and Cohen 2012: 194).

[^17]:    ${ }^{32}$ An example may demonstrate how important specificity can be. It will be clear that the remaining part of sw2 -normous as in ginormous, from gigantic + enormous, or hunormous, from huge + enormous, reminds much more directly and specifically to the corresponding lexeme

[^18]:    enormous than -unch from brunch. After all, there are no or hardly any English words with final -normous other than enormous, whereas there is a small list of completely different English words with final -unch, see for instance bunch, munch, punch and crunch. However, it should not be forgotten that the context in which brunch normally is used favors the interpretation of brunch as a sort of meal instead of that of a possible blend of break + punch.

[^19]:    ${ }^{33}$ Beliaeva (2014b: 175) compares the difference in 'phonetic structure' between stub compounds and blends with the difference between any English monomorphic and polymorphemic words. For instance, she compares the stub compound fin-lit with the dimorphemic word unlit and the blend shress with the monomorphemic shrink. Even though the observation presented is correct, she misses the point that there is a difference in phonological or prosodic words which explains the difference in stress pattern. After all, there are ample English polymorphemic words without stress on the left most syllable.

