Stress in English blends: A constraint-based analysis

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1. Introduction

The base of a blend consists of two words, but its structure is of a single word in terms of syllables and the stress pattern. In this paper we provide an analysis of the stress system of English blends.

In most cases, the stressed syllable of the blend is identical to that of one of the base words. The question is, however, which of the base words provides its stressed syllable?

The position-based view argues that the stress provider is the righthand base word, while the size-based view argues that it is the base word whose size is identical to that of the blend. We adopt here yet another view, which combines both size and position, showing that when both criteria compete there is intra-word variation.

In the formal analysis, within the constraint-based approach of Optimality Theory, we state the size and position criteria in terms of faithfulness constraints, and demonstrate their interaction in the correspondence between the base words and the output blend.

Blends belong to a larger class of subtractive formation, which also includes acronym words, clipped compounds, and to a certain extent, also combining forms. These formations form a continuum (López Rúa 2004), with quite a few forms lying at the borderlines. It is thus important to be specific with regard to the delimitations of the data. In our analysis of stress assignment in blends, we restrict our corpus as follows:

a. Number of base words: The base consists of two words, thereby excluding forms such as *compúshity*←*compúlsion*+*push*+*necéssity*
b. Truncation: There is truncation in at least one of the base words, including forms such as *skinóe*←*ski*+*canóe*
c. Switch point: Truncation is in the middle of the blend, i.e. the first base word is truncated at its right edge, while the second base word is truncated at its left edge. Clipped compounds, such as *sítcom*← *situátion*+*cómedy*, are thus excluded.

d. Degemination: Blends in which the only truncation consists of degemination are not considered, thus excluding forms such as *hótray* ←*hot+tray*
e. Combining forms: The blends considered do not include combining forms, as these may be analyzed as straightforward affixation of a clipped base (Hamans 2010). This excludes forms such as *workohólic*←*work+(o)hólic* or *shopohólic*←*shop+(o)hólic*, in which *(o)hólic* is a combining form.
f. Initials: Neither base is simply an initial, excluding forms such as *émail*←*electrónic+mail*

Our analysis only deals with the stress pattern in blends, and we do not make reference to the order of the base words, the switch point (Gries this volume), or the analysis deriving the number of syllables in the blend (Kelly 1998, Gries 2004, Bat-El 2006, Lalić-Krstin and Halupka-Rešetar 2010). The data were collected from various sources, including Adams (1973), Bryant (1974), Algeo (1977), Gries (2004), and the internet (mostly Buzzwack). The position of stress was determined by consulting native speakers.

We start the discussion with the general tendencies observed in the stress system of blends (§2), with reference to the position-based view (§2.1), the size-based view (§2.2), and the size&position-based view (§2.3). We then begin our Optimality Theoretic analysis, which we organize according to the properties of the bases of the blend. First come the blends whose base words are both polysyllabic (§3). Here we distinguish among the types of blends with reference to size (i.e. number of syllables): blends whose size is identical to that of both base words (§3.1), blends whose size is identical to only one of the base words (§3.2), and blends whose size differs from that of both of the base words. Next, we proceed with blends where one of the base words is monosyllabic (§4). Here we distinguish between blends whose size is identical to that of the polysyllabic base word (§4.1) and blends whose size is different from that of the polysyllabic base word (§4.2). A further distinction is provided in the latter case, between blends whose monosyllabic base word is on the left (§4.2.1), and blends whose monosyllabic base word is on the right (§4.2.2). Finally, we address cases where the default stress of English emerges, due to the failure of the bases to contribute a stressed syllable (§5).

2. General tendencies

In most cases, the stressed syllable in a blend corresponds to a stressed syllable in one of the base words (Quirk et al. 1985, Gries 2004, Bat-El 2006, Renner and Lalić-Krstin 2009 inter alia). In cases in which only one stressed syllable survives from the base words, stress resides on this syllable (again, in most cases), as in the blend *dynétic*←*dynámic*+*magnétic*.

In other cases, however, things may be more complex. We investigate here the position stress with reference to the following conditions:

a. Both stressed syllables from the bases survive, as in the blend *fertigátion*←*fértilizer*+*irrigátion*
b. Neither stressed syllable from the bases survives, as in the blend *símulcast*←*simultáneous*+*bróadcast*
c. One of the base words is monosyllabic, as in the blend *bískwik*←*bískit*+*kwik*.

We provide quantitative and qualitative data and generalizations, and a formal analysis with the framework of Optimality Theory. We show that in most cases, stress is determined by faithfulness constraints, requiring identity between the blend's stress pattern and that of its base words. However, when the faithfulness constraints are mute with respect to a form in question, stress position in the blend is determined by the default stress of the language.

There are two approaches in the literature with respect to stress assignment in blends: the position-based view (§2.1) and the size-based view (§2.2). As it turns out, both size and position play a role in the stress system of blends, and we thus follow a third approach here, the size&position-based view (§2.3).

2.1. Position-based view

According to advocates of the position-based view (Bat-El 1996, Fischer 1998, Bauer this volume), the stressed syllable in a blend corresponds to the stressed syllable of the **right** base word (W_R), as exemplified in the following Table 1:

Table 1. Position-based stress assignment

	Size	σs	Base words				Blend
a.	$W_L=W_R$	4-4	fértilizer	+	irrigátion	→	fertigátion
b.	$W_L<W_R$	2-3	ánchor	+	elástic	→	anchorlástic
c.	$W_L>W_R$	4-3	ággravating	+	annóying	→	aggranóying

In Table 1, the stress in the blend is assigned according to that of the right base word (W_R), regardless of whether the left base word is longer as in (1c), shorter as in (1b), or whether the base words are equal in length as in (1a).

2.2. Size-based view

The size-based approach (Cannon 1986) attributes stress assignment to the size of the base words rather than their order in the blend. The stressed syllable in the blend corresponds to the stressed syllable in the longer base word, as demonstrated in the following Table (2):

Table 2. Size-based stress assignment

	Size	σs	Base words				Blend
a.	$W_L<W_R$	3-5	invésting	+	encyclopédia	→	investopédia
b.	$W_L>W_R$	3-2	hándkerchief	+	kerchóo	→	hándkerchoo

Whether the longer word is on the right as in (2a), or on the left, as in (2b), the stressed syllable of the blend corresponds to that of the longer word.

The reference to the longer base word is actually derived. The stressed syllable of the blend corresponds to the stressed syllable of the base word with which it equals in size (i.e. number of syllables). However, for recoverability reasons (Bat-El 2006), the blend usually adopts the size of the longer base word, and thus it turns out that the blend adopts the stressed syllable of the longer base word.

Note that the size-based view is mute with regard to blends whose base words are identical in size and blends whose size differs from both base words. Therefore, we adopt the mixed view presented in the following section.

2.3. Size&Position-based view

A third possibility, one which we largely follow in our analysis, is that size and position are both relevant in the assignment of stress in blends (Renner and Lalić-Krstin 2009). The generalization is as follows:

a. Default: The stressed syllable in the blend corresponds to the stressed syllable in the right base word
b. Specific: When the base words differ in size and the number of syllables in the blend is identical to that of one of the base words, there is inter-word variation, i.e. in some blends size wins and in others position wins.

In most blends, it is the righthand base word that wins. First, because position is the default case. Second, as shown in Gries (2004a) and Kelly (1998), the righthand base word is longer than the lefthand one in significantly more blends, which means that in most cases, size and position converge.

In the following sections, we present our formal analysis within an Optimality Theoretical approach, capturing the above generalizations, as well as making some additional claims with reference to free variation and the status of stress in monosyllabic base words. We start with blends where both base words are polysyllabic (§3), and then continue with blends where one of the base words is monosyllabic (§4). Needless to say, only polysyllabic blends are at issue here.

3. Polysyllabic base words

The phonological properties of the blend are contingent upon those of the base words. In terms of Optimality Theory (Prince and Smolensky 1993/2004), there are correspondence relations (McCarthy and Prince 1995) between the blend and the base words. The preservation of the phonological properties of the base words is not only on the segmental level, but also holds on the level of metrical structure (Tomaszewicz this volume), and is accomplished via a set of faithfulness constraints requiring input-output identity.

When dealing with polysyllabic base words, there are various kinds of interaction, depending on the number of syllables in the base words and the number of syllables in the blend. In the following analysis, we distinguish among these cases: blends whose size is identical to that of both base words

(§3.1), blends whose size is identical to that of one of the base words (§3.2), and blends whose size differs from that of both base words (§3.3).

3.1. Blend's size is identical to the size of both base words

If the base words and the blend all have an identical number of syllables, then the stressed syllable in the blend (and thus the stress pattern of the blend) corresponds to the stressed syllable in the right base word (position-based view). This generalization is exemplified in the following Table (3):

Table 3. Stress in blends equal in size to both base words

	Base words				**Blend**
a.	fértilizer	+	irrigátion	→	fertigátion
b.	írritating	+	entertáinment	→	irritáinment
c.	mótor	+	hotél	→	motél
d.	rócket	+	ballóon	→	rockóon

In the simple cases presented in Table 3, the stress position in the blend is faithful to that in the righthand base word. Within the model of Optimality Theory, the relevant faithfulness constraint is FAITHHEAD, which refers to the head of the word (i.e. the stressed syllable). Given that the stressed syllable in a blend corresponds, in most cases, to a stressed syllable in one of the base words, FAITHHEAD must have two members, one for each base word.

FAITHHEADW_R: The stressed syllable in the blend corresponds to the stressed syllable in the right base word (W_R)

FAITHHEADW_L: The stressed syllable in the blend corresponds to the stressed syllable in the left base word (W_L)

Following the position-based view, the ranking of these two constraints is FAITHHEADW_R >> FAITHHEADW_L, which gives priority to the stressed syllable of the right base word (W_R). The selection of the optimal candidate is demonstrated in the following Tableau 1:

Tableau 1. fértilizer+irrigátion → fertigátion

́σσσσ+σσ́σσ			FAITHHEADW$_R$	FAITHHEADW$_L$
a.	́σσσσ	fértigation	*!	
b. ☞	σσ́σσ	fertigátion		*

Key: The input structure is in the leftmost top cell, and the relevant candidates are listed below it. * indicates a constraint violation and *! a fatal violation which excludes the candidate from the competition. ☞ points towards the winner, i.e. the optimal candidate.

In our corpus, when both stressed syllables of the polysyllabic base words survive truncation, this generalization holds in 90% (9/10) of the cases. The sole exception is *squádrol←squádcar+patról*, though some speakers preferred the expected *squadról*. This was the only word in our data which raised doubts with regard to the position of stress.

3.2. Blend's size is identical to the size of one of the base words

If the base words differ in size from one another, and the number of syllables in the blend is identical to that of one of the base words, then we expect the stress pattern of the blend to be identical to that word. In the following Table (4), we present examples of such cases (B^{σ}/W^{σ} stands for number of syllables in the blend/base word):

Table 4. Blend is equal in size to one of the base words

			Base words				**Blend**
a.	$B^{\sigma}=W_R{}^{\sigma}$	$W_L<W_R$	dígital	+	cafetéria	→	digitéria
b.	$B^{\sigma}=W_R{}^{\sigma}$	$W_L>W_R$			no data (see below)		
c.	$B^{\sigma}=W_L{}^{\sigma}$	$W_L<W_R$	ballóon	+	párachute	→	ballúte
d.	$B^{\sigma}=W_L{}^{\sigma}$	$W_L>W_R$	húrricane	+	ballóon	→	húrricoon

We refer here particularly to the stress pattern rather than the stressed syllable for the (rare) cases such as *ballúte* in which both stressed syllables are truncated but the size of the blend is identical to that of one of the base words and thus adopts its stress pattern. Preserving the metrical structure of one of the base words is in line with Piñeros' (2010) approach, that formation of portmanteaus (a subtype of blends according to Piñeros) involves the preservation of the prosodic structure of one base word, while superim-

posing the segments of the second base word (rather than the concatenation of two clipped bases).

The preservation of metrical structure is enforced by the following faithfulness constraint, which roughly corresponds to the size criteria:

> FAITH METRICAL STRUCTURE (FAITHMS): The metrical structure (number of syllables and stress pattern) of the blend is identical to that of both base words

FAITHMS is violated when the metrical structure (i.e. number of syllables and stress pattern) of the candidate blend differs from that of the base words. If it differs from one base word, there is one violation mark, and if it differs from both base words, there are two violation marks.

With regard to the ranking, it is clear that FAITHMS outranks FAITHHEADW$_L$. However, at this point of the discussion, there is no evidence for its ranking with respect to FAITHHEADW$_R$, i.e. both FAITHMS >> FAITHHEADW$_R$ and FAITHHEADW$_R$ >> FAITHMS result in the same output. The constraint ranking is thus FAITHMS, FAITHHEADW$_R$ >> FAITHHEADW$_L$, where the comma between FAITHMS and FAITHHEADW$_R$ (marked with a broken line in the tableaux) indicates that there is no evidence for crucial ranking. The selection of the optimal candidate is demonstrated in the following Tableaux 2 and 3.

Tableau 2. dígital+cafetéria → digitéria

σσσ+ σσσσ			FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a.	σσσσ	dígiteria	**!	*	
b. ☞	σσσσ	digitéria	*		*

Tableau 3. ballóon+párachute → ballúte

σσ+σσσ			FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a.	σσ	bállute	**!	*	*
b. ☞	σσ	ballúte	*	*	*

Note, that for some speakers, *cafetéria* consists of 5 syllables rather than 4, but this is immaterial, since the blend *digitéria* would also consist of 5 syllables for these speakers.

In Tableau 3, both stressed syllables of the base are truncated and thus both candidates violate the two FAITHHEAD constraints. The winner *ballúte*

violates FAITHMS only once, due to the prosodic mismatch with *párachute*; the loser **bállute* violates FAITHMS twice, due to prosodic mismatch with both base words.

In our corpus, when the blend and the righthand base word have the same number of syllables, the blend follows our prediction and has the same stress pattern as the righthand base word in 96.55% (28/29) of the cases. The only exception is *cámcorder*←*cámera*+*recórder* (expected: **camcórder*).

Note that when the blend and the base words are identical in size (§3.1), each candidate has one violation of FAITHMS, since each differs in its stress pattern from one of the base words.

Tableau 4. fértilizer+irrigátion → fertigátion

́σσσσ+σσ́σσ			FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a.	́σσσσ	fértigation	*	*!	
b. ☞	σσ́σσ	fertigátion	*		*

Our data do not include blends where W$_R$ is shorter than W$_L$ and the number of syllables in the blend is identical to that of W$_R$. In the few cases where the size of the blend equals that of the shorter W$_R$, only one stressed syllable survives (e.g. *núplex*←*núclear*+*cómplex*, *céltuce*←*célery*+*léttuce*). Had there been such a blend, our analysis predicts, as shown in Tableau 5, that the stressed syllable in the blend would correspond to that in W$_R$. For example, had there been a disyllabic blend derived from *dígital*+*ballóon*, we would expect *dilóon*.

Tableau 5. σσσ+σσ́ → σσ́

σ́σσ+σ́σ		FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a.	σσ́	**!	*	
b. ☞	́σσ	*		*

So far, in this section, we considered cases where the ranking between FAITHMS (size) and FAITHHEADW$_R$ (position) is non-crucial. In order to determine the ranking between these two constraints, and thus the dominance of size vs. position, we have to attend to blends that adopt the size of the lefthand base word. These are the cases where FAITHMS (size) and

FAITHHEADW$_R$ (position) compete, since size calls for the lefthand base word and position for the righthand one.

As it turns out, there is no priority relation between size and position, since some blends adhere to size, as in Table 5 below, and others to position, as in Table 6.

Table 5. $B^{\sigma}=W_L{}^{\sigma}$ and $B^{Stress}=W_L{}^{Stress}$ – size wins (45.5% – 5/11)

	Base words				**Blend**	
a.	quálity	+	látex	→	quálatex	(*qualátex)
b.	húrricane	+	ballóon	→	húrricoon	(*hurricóon)
c.	stímulating	+	líghting	→	stímulighting	(*stimulíghting)
d.	ácupuncture	+	préssure	→	ácupressure	(*acupréssure)
e.	hándkerchief	+	kerchóo	→	hándkerchoo	(*handkerchóo)

Table 6. $B^{\sigma}=W_L{}^{\sigma}$ and $B^{Stress}=W_R{}^{Stress}$ – position wins (55.5% – 6/11)

	Base words				**Blend**	
a.	ággravating	+	annóying	→	aggranóying	(*ággranoying)
b.	gálvanize	+	annéal	→	galvannéal	(*gálvanneal)
c.	váudeville	+	víllain	→	vaudvíllain	(*váudvillain)
d.	ébony	+	phónics	→	ebónics	(*ébonics)
e.	américan	+	ásian	→	amerásian	(*amérasian)
f.	cénsorship	+	scíssors	→	censcíssors	(*cénscissors)

This is a case of intra-word variation, where different words follow minimally different rankings. In some cases, the variation is among different lexical categories (Bat-El 2008), but it might as well be within the same category (Anttila 2006) as in the case of blends.

The distinction between the blends in Table 5 and in Table 6 is in the ranking of FAITHMS and FAITHHEADW$_R$. When FAITHMS outranks FAITHHEADW$_R$, as in Tableau 6 below, the stressed syllable in the blend corresponds to the stressed syllable of the base word whose number of syllables is identical to that of the blend. However, when FAITHHEADW$_R$ outranks FAITHMS, as in Tableau 7, the stressed syllable in the blend corresponds to the stressed syllable in the righthand word.

Tableau 4. húrricane+ballóon → húrricoon

́σσσ+σσ́			FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a. ☞	́σσσ	húrricoon	*	*	
b.	σσσ́	hurricóon	**!		*

Tableau 5. cénsorship+scíssors → censcíssors

́σσσ+σ́σ			FAITHHEADW$_R$	FAITHMS	FAITHHEADW$_L$
a.	́σσσ	cénscissors	*!	*	
b. ☞	σ́σσ	censcíssors		**	*

Given that each of the two conflicting rankings accounts for some blends, we must conclude that both rankings are available and there is thus "free ranking", or "crucial non-ranking" between FAITHHEADW$_R$ and FAITHMS. That is, there are two minimally distinctive grammars of blends' stress in English:

FAITHMS >> FAITHHEADW$_R$ >> FAITHHEADW$_L$ and
FAITHHEADW$_R$ >> FAITHMS >> FAITHHEADW$_L$.

3.3. Blend's size differs from the size of both base words

If the blend differs in size from both base words, then the stressed syllable of the blend corresponds to the stressed syllable of the right base word. In the following Table 7, we present example of such cases:

Table 7. Blend differs in size from both base words

		Base words				**Blend**
a.	$W_L=W_R$	insínuate	+	innuéndo	→	insinuéndo
b.	$W_L<W_R$	ánchor	+	elástic	→	anchorlástic
c.	$W_L>W_R$	ánecdote	+	dótage	→	anecdótage

This pattern is predicted from our analysis thus far. As demonstrated in the following Tableaux 8-9, FAITHMS is equally violated by both candidates, and the optimal candidate is thus selected by the ranking FAITHHEADW$_R$ >> FAITHHEADW$_L$.

Tableau 6. $W_L<W_R$: *óptic+electrónic → optrónic*

́σσ+σσ́σ			FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a.	́σσ	óptronic	**	*!	
b. ☞	σ́σ	optrónic	**		*

Tableau 7. $W_L>W_R$: *ánecdote+dótage → anecdótage*

́σσ+́σ			FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a.	́σσσ	ánecdotage	**	*!	
b. ☞	σσ́σ	anecdótage	**		*

In the above tableaux, both candidates, regardless of the position of their stress, violate FAITHMS twice, due to the mismatch in the number of syllables with both base words. Consequently, the optimal candidate is selected by FAITHHEADW$_R$. Indeed, this is the case in 88.57% (31/35) of the blends in our corpus. The four exceptions appear in the following Table 8:

Table 8. $B^{\sigma}\neq W^{\sigma}_{L\&R}$, and $B^{Stress}=W_L{}^{Stress}$ – not as predicted

	Base words				**Blend**	
a.	kíddy	+	applíance	→	kíddypliance	(*kiddyplíance)
b.	lórry	+	hotél	→	lórrytel	(*lorrytél)
c.	hóllywood	+	wóoer	→	hóllywooer	(*hollywóoer)
d.	lúbricant	+	cúshion	→	lúbricushion	(*lubricúshion)

4. Monosyllabic base word

For the most part, blends with one monosyllabic base word seem to behave no differently from those with two polysyllabic base words discussed above. But there is one case where special attention is required. In the following discussion, we start with blends whose size is identical to that of the polysyllabic base word (§4.1) and then continue with blends whose size is different from that of the polysyllabic base word (§4.2). In the latter case, we distinguish between blends whose monosyllabic base word is on the left (§4.2.1), and those where the monosyllabic base word is on the right (§4.2.2).

4.1. Blend's size is identical to that of the polysyllabic base word

If the stressed syllable of the polysyllabic base survives, it will be stressed in the blend too, as shown in the following Table 9:

Table 9. Stressed syllable of polysyllabic base survives

		Base words				**Blend**
a.	W_R=monosyllabic	magnétic	+	sticks	→	magnésticks
b.	W_L=monosyllabic	sing	+	inspirátion	→	singspirátion
c.	W_L=monosyllabic	klan	+	cónclave	→	klónclave

If the stressed syllable of the polysyllabic base is truncated, stress will fall on the monosyllabic word, as shown in the following Table 10:

Table 10. Stressed syllable of polysyllabic base does not survive

		Base words				**Blend**
a.	W_L=monosyllabic	blog	+	árchives	→	blógives
b.	W_R=monosyllabic	refugées	+	jews	→	refujéws

Note that in both cases, the blend adopts the stress pattern of the polysyllabic word, and since there is also a match in the number syllables, it means that FAITHMS selects the optimal candidate.

As can be seen in the following tableaux, we do not mark a violation mark under a FAITHHEAD constraint when it refers to the monosyllabic base word. This follows our assumption, to be supported later on, that the monosyllabic words do not carry lexical stress. Our analysis provided in Tableaux 10-11 accounts for the cases exemplified in Tables 9 and 10, regardless of whether the stressed syllable of the polysyllabic word survives.

Tableau 8. magnétic+sticks → magnésticks (stressed syllable preserved)

σσ́σ+σ			FAITHMS	FAITHHEADW_R	FAITHHEADW_L
a. ☞	σσ́σ	magnésticks	*		
b.	σσσ́	magnestícks	**!		*

Tableau 9. blog+árchive → blógive (stressed syllable truncated)

σ+σ́σ			FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a.	σσ́	blogíve	**!	*	
b. ☞	σ́σ	blógive	*	*	

In our corpus, 99.21% (126/127) of the blends behave as predicted. The only exception is *fláretrol*←*flare+contról* (expected: **flaretról*).

4.2. Blend's size differs from that of the polysyllabic base word

When the blend differs in size from the polysyllabic base word, the stress pattern of the blend depends on the position of the monosyllabic base word and the survival (or lack thereof) of the stressed syllable of the polysyllabic base word. We distinguish here between two cases on the basis of the position of the monosyllabic base word, whether it is on the left (§4.2.1) or on the right (§4.2.2). The latter case touches on the issue of the status of stress in monosyllabic words.

4.2.1. Monosyllabic base word is on the left

If the stressed syllable of the polysyllabic base word survives and the monosyllabic base word is on the left, then the stress falls on the stressed syllable of the polysyllabic base word.

Table 11. Monosyllabic word on the left

	Base words				**Blend**
a.	dense	+	nýlon	→	densýlon
b.	mom	+	entreprenéur	→	momprenéur

As shown in the following Tableau 12, this too is predicted by our analysis thus far:

Tableau 10. dense+nýlon → densýlon

σ+σ́σ			FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a.	σ́σσ	dénsylon	**	*!	
b. ☞	σσ́σ	densýlon	**		

If the stressed syllable of the polysyllabic base word is truncated and the monosyllabic base is on the left, then the stress falls on the syllable of the monosyllabic base word, as is the case in *fánzine←fan+mágazine* and *plúmcot←plum+ápricot*. However, since we assume that the monosyllabic base word does not have a lexical stress (§4.2.2), the stress in the blend cannot be attributed to the satisfaction of FAITHHEADW$_L$ (nor to FAITHMS given that both candidates equally violate this constraint due to the mismatch in the number of syllables). As will be argued in §5, in the absence of a surviving stressed syllable, the default stress of the language emerges.

4.2.2. Monosyllabic base word is on the right

In §3.3, we saw that when the blend differs in size from both base words, the stressed syllable of the blend corresponds to the stressed syllable of the righthand base word. This generalization is true for the majority of the blends in our corpus (88.57%), where both base words are polysyllabic.

We would expect this generalization to hold when one of the base words is monosyllabic. It does indeed hold when the monosyllabic base word is on the left, as shown in §4.2.1, but it does not hold when the monosyllabic base word is on the right, as exemplified in Table 12 below:

Table 12. Monosyllabic base words on the right

	Base words				**Blend**	
a.	cítric	+	sun	→	cítrisun	(*citrisún)
b.	éscalator	+	air	→	éscalair	(*escaláir)
c.	éscalator	+	lift	→	éscalift	(*escalíft)
d.	lúminous	+	mist	→	lúmist	(*lumíst)

The blends in Table 12 reflect a tendency to avoid stress on the monosyllabic base. A similar behavior is observed with classical compounds, where the prefix (or combining form) is monosyllabic (Fudge 1984, Wenszky 2004). When monosyllabic prefixes are attached to polysyllabic stems, the main stress falls on the stem (e.g. *àrch-bíshop*). However, when monosyllabic prefixes are attached to monosyllabic bases, the main stress falls on the prefix (e.g. *árch-dùke*).

In order to account for the forms in Table 12, we assume that monosyllabic words are **not lexically stressed**. Since stress is a relative property

within a word, monosyllabic words are stressed by default. Observe the following Tableau 13:

Tableau 11. lúminous+mist → lúmist

ό σσ+σ			FAITHMS	FAITHHEADW$_R$	FAITHHEADW$_L$
a.	σσ́	lumíst	**		*!
b. ☞	ό σσ	lúmist	**		

FAITHMS is violated by both candidates, due to the number of syllables in the blend, which does not match either base word. FAITHHEADW$_R$ is vacuously satisfied, since the monosyllabic base word (W$_R$) does not have lexical stress. Therefore, the effect of the low ranked FAITHHEADW$_L$ emerges, and the candidate respecting it is selected as the optimal candidate.

Given our assumption regarding lexical stress in monosyllabic words, we now have to see whether it works for all other blends with monosyllabic base words.

5. The emergence of the default stress

As we have seen thus far, stress assignment results from the interaction among some faithfulness constraints requiring the bases' stressed syllables to remain as such, and others requiring the prosodic structure of the blend to resemble one of the base words. However, there are two situations in which the faithfulness constraints do not play a role. In such cases, stress assignment in the blend follows the language's default stress.

The first case in which the blend cannot be faithful to the stressed syllable in either base is if the stressed syllables of both base words are truncated, as in the following Table 13:

Table 13. Truncation of both bases' stressed syllables

	Base words				**Blend**
a.	electrícity	+	mágnet	→	eléctret
b.	simultáneous	+	bróadcast	→	símulcast
c.	administrátion	+	átmosphere	→	admínisphere

In these cases, we argue that the default stress is assigned. Stress in English falls on the heavy penultimate syllable, as in *eléctret*. If, however, the coda of the penultimate syllable is a sonorant or *s*, as in *répertory* and *prótestant*, the stress falls on the antepenultimate syllable (Burzio 1994, Hayes 1995), as is evident in the blends *símulcast* and *admínisphere*.

The second case in which the blend cannot be faithful to the stressed syllable in either base is when one of the base words is monosyllabic, thus without lexical stress, and the stressed syllable of the polysyllabic word is truncated. Examples are given in the following Table 14.

Table 14. Monosyllabic and truncated polysyllabic

	Base words				**Blend**	
a.	condensátion	+	trail	→	cóntrail	(*contráil)
b.	américan	+	track	→	ámtrack	(*amtráck)
c.	fan	+	mágazine	→	fánzine	
d.	plum	+	ápricot	→	plúmcot	

As shown in Table 14, regardless of the position of the monosyllabic base word, the assignment of stress in the blend follows the penultimate default stress of English. Only when there is no surviving stressed syllable does the default stress of the language emerge.

6. Concluding remarks

We have argued in this paper that both size and position play a role in determining the position of stress in blends. In two cases, as summarized in Table 15, size and position converge: when the blend and both base words have an identical number of syllables (15a), and when the blend and the righthand base word have an identical number of syllables (15b). Size cannot play a role when the number of syllables in the blend differs from that of both base words, in which case position is the only criterion (15c). These cases do not allow us to determine which criterion – size (FAITHMS) or position (FAITHHEADW$_R$) – is stronger, or higher in the hierarchy. However, blends whose size is identical to that of the lefthand base word suggest that both criteria play an equal role, given the intra-word variation (15d).

Table 15. Summary – Polysyllabic base words

a.	$W_L{}^{\sigma}=W_R{}^{\sigma}$	$B^{\sigma}=W^{\sigma}$	$B^{stress}=W_R{}^{stress}$	Position **&** size
b.	$W_L{}^{\sigma}\neq W_R{}^{\sigma}$	$B^{\sigma}=W_R{}^{\sigma}$	$B^{stress}=W_R{}^{stress}$	Position **&** size
c.	not relevant	$B^{\sigma}\neq W^{\sigma}$	$B^{stress}=W_R{}^{stress}$	Position
d.	$W_L{}^{\sigma}=W_R{}^{\sigma}$	$B^{\sigma}=W_L{}^{\sigma}$	$B^{stress}=W_{L/R}{}^{stress}$	Position **or** size

We provided a formal account for these generalizations within the framework of Optimality Theory, adhering to the hierarchy of three faithfulness constraints: FAITHMS , FAITHHEADW$_R$ >> FAITHHEADW$_L$. The crucial non-ranking FAITHMS and FAITHHEADW$_R$ accounts for the variation.

Blends with monosyllabic base words appear to diverge from the generalization. However, by assuming that monosyllabic words are not lexically stressed, the apparent exceptions are resolved. First of all, if the stressed syllable of the polysyllabic base survives, it serves as the stressed syllable of the blend, regardless of whether the monosyllabic base is W_L or W_R. Otherwise, the bases do not provide the blend with a stressed syllable (similarly to cases in which both bases have had their stressed syllables truncated), and the default stress of the language is assigned.

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