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longer accepted, but the main classificatory result of the daughter's work still holds. From 1923 to 1948, Dorothea Bleek was Honorary Reader in the Bushman Languages at the University of Cape Town. But she refused the title of an Honorary Doctor, regarding herself simply as her father's humble disciple.

See also: Africa as a Linguistic Area; Bantu Languages; Lepsius, Carl Richard (1810–1884); Meinhof, Carl Friedrich Michael (1857–1944); Müller, Friedrich Max (1823–1900); South Africa: Language Situation.

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Blend

O Bat-El, Tel-Aviv University, Tel-Aviv, Israel

Introduction

The word *Oxbridge* is composed of a string of segments corresponding to segments at the left edge of *Oxford* and the right edge of *Cambridge*. This is a blend, and so are *vodkatini* (*vodka* + *martini*), *jazzercise* (*jazz* + *exercise*), and *maridelic* (*marijuana* + *psychedelic*). Blends (also called portmanteau words) exhibit some sort of structural fusion, in which a single word is formed from two words (and in a handful of cases from three). The byproduct of this fusion is the truncation of segmental material from the inner edges of the two words or only one of them (i.e., the material not underlined in the examples above). Note that blends refer only to cases where the inner edges are truncated. Forms in which the right edges of the two (or more) words are truncated, such as *sitcom* (*situation* + *comedy*), *modem* (*modulator* + *demodulator*), and *fortran* (*formula* + *translation*), are called clipped compounds. Blends in which only the first word undergoes truncation could also be considered a clipped compound (*mocamp* from *motor* + *camp*), especially when each word contributes only one syllable to the surface form, which is a characteristic of clipped compounds.

A blend is one word that delivers the concept of its two base words and its meaning is thus contingent on the semantic relation between the two base words. In *skinoe* (*ski* + *canoe*), the word *canoe* functions as the semantic head, since *skinoe* is a type of *canoe*. In *snazzy*, however, neither *snappy* nor *jazzy* functions as a head and the meaning of the blend is thus a hybrid of the meaning of the two (sometimes near-synonymous) base words.

The most intriguing question with respect to blends is whether their phonological structure, i.e., their size, syllable structure, and segmental makeup, is predictable on the basis of the base words (Bauer, 1983). For example, why do we get *beefalo* from *beef* and *buffalo*, rather than **beelo* or **beebuffalo*? And since the order of the base words affects the phonological shape of the blend, we may also ask why the order is not *buffalo* + *beef*, which would result in **buffabeef* or **bubeef*?

In most cases, two base words provide only one possible blend (there is a handful of cases where both orders are available, e.g., *tigon* (*tiger* + *lion*) versus *liger* (*lion* + *tiger*), *absotively* (*absolutely* + *positively*) versus *posilutely* (*positively* + *absolutely*), and *moorth* (*moon* + *earth*) versus *earthoon* (*earth* + *moon*)). Therefore, we may suspect that the formation of blends is not accidental, but rather governed by some general principles. The principles reflect two competing tendencies: (i) to truncate segments from

Table 1 Types of semantic relations between the base words

	Base words			*Blend*
(a)	Endocentric relation: one of the words functions as a semantic head (in bold below) and the other as a modifier			
	klan	+	**koran**	kloran 'a bible used by the members of KKK'
	education	+	**entertainment**	edutainment 'educational entertainment'
	key	+	**container**	keytainer 'a container for keys'
(b)	Exocentric relation: both words have the same semantic status, and thus none of them serves as a head			
	alphabetic	+	numeric	alphameric 'consisting of both letters and numbers'
	escalator	+	lift	escalift 'a hybrid device with the advantage of both an escalator and a lift'
	tangerine	+	lemon	tangemon 'a hybrid of tangerine and lemon'

the base in order to allow the blend to have the length a single word, preferably one of the base words, and (ii) to preserve as many segments from the base words as possible and thus maximize the semantic transparency of the blend.

The principles proposed in the following sections take English blends as the empirical basis (the data are drawn mostly from Adams (1973) and Bryant (1974)). However, these principles should be applicable to blends from other languages, though some parameter settings might be required (see Kubazuno (1990) for English and Japanese; Bat-El (1996) for Hebrew; Fradin (2000) for French; and Piñeros (2004) for Spanish).

The Semantic Relation between the Base Words

The meaning of a blend is composed of the meaning of its base words, which exhibit two types of semantic relation, endocentric and exocentric (Table 1) (see Adams (1973) and Algeo (1977) for other types of relation).

In some cases, it is not clear whether the semantic relation is endo- or exocentric. The blend *smog* (*smoke* + *fog*), for example, has two meanings, 'a mixture of fog and smoke' (exocentric) and 'an airborne pollution' (endocentric). The same is true for *brunch* (*breakfast* + *lunch*), which means either 'lunch with some characteristics of breakfast' (endocentric) or 'a mixture of breakfast and lunch' (exocentric).

These two types of relations also appear in compounds (Bauer, 1988; Spencer, 1991), but blends are much more permissive in this respect. Blends allow any possible combination of lexical categories, including some that do not appear in compounds (e.g., verb–verb, as in *baffound*, from *baffle* + *confound*). In addition, blends do not show preference for endo- or exocentric relation, whereas compounds are mostly endocentric. Finally, in endocentric compounds the order of the head and the modifier is fixed and this is also true for most endocentric blends in English (Kubozono, 1990), which are right-headed, like compounds. In Hebrew, however, whose compounds are left-headed, blends can be either right- or left-headed (Bat-El, 1996).

Table 2 The number of syllables in a blend equals the number of syllables in Its longer base word

Blend	*Base words*
alphameric (4)	alphabetic (4) + numeric (3)
econocrat (4)	economist (4) + bureaucrat (3)
pinkermint (3)	pink (1) + peppermint (3)
plastinaut (3)	plastic (2) + astronaut (3)
portalight (3)	portable (3) + light (1)
smothercate (3)	smother (2) + suffocate (3)
tangemon (3)	tangerine (3) + lemon (2)
Texaco (3)	Texas (2) + (New) Mexico (3)
zebrule (2)	zebra (2) + mule (1)

The Size of the Blend

The formation of a blend aims toward two competing goals. On the one hand, it must have the structure of a single word, unlike compounds, in which the two base words are accessible. For this purpose, the blend often adopts the number of syllables in one of its base words, thus truncating some segmental material. On the other hand, a blend must preserve as much of the structure from its base words as possible. To accommodate the first goal and maximize the fulfillment of the second, the number of syllables in a blend is often identical to the number of syllables in the longer base word (number of syllables in parentheses) (see Table 2).

By adopting the number of syllables from the longer rather than the shorter base word, the blend obtains the structure of one word and maximizes its size. Maximization facilitates the semantic recoverability of the base words, since the more segmental material from the base words there is, the easier it is to identify them.

Table 3 Segmental maximization also determines the order of the base words in exocentric blends

A + B – Maximizing order		*B + A – Nonmaximizing order*	
blurt	blow + spurt	*spow	spurt + blow
glaze	glare + gaze	*gare	gaze + glare
smash	smack + mash	*mack	mash + smack
snazzy	snappy + jazzy	*jappy	jazzy + snappy
swacket	sweater + jacket	*jater	jacket + sweater
camcorder	camera + recorder	*recmera	recorder + camera
citrange	citrus + orange	*ortrus	orange + citrus

There are, however, some exceptions, for example, *plumcot* (2) from *plum* (1) + *apricot* (3); *brunch* (1) from *breakfast* (2) + *lunch* (1); *goon* (1) from *gorilla* (3) + *baboon* (2); and *bionic* (3) from *biology* (4) and *electronic* (4). It should be noted that Kubozono (1990) claims that the number of syllables in a blend is identical to the number of syllables in the rightmost word, but some of the exceptions above (*bionic*, *plumcot*, *goon*) do not obey this generalization either.

When the two base words have an identical number of syllables, the number of segments often plays a role. Here again, in order to facilitate recoverability, blends tend to preserve as many base segments as possible, given the restriction on the number of syllables noted above. This tendency affects the order of the base words in exocentric blends, in which the order is not determined by a head–modifier relation. For example, a word with a complex onset will be first and a word with a complex coda second. That is, the order of the base words is determined by the principle requiring the maximization of the number of segments (see Table 3).

In some cases, segmental maximization is blocked by the phonotactics of the language. For example, from *bang* + *smash* we obtain *bash*, rather than the segmentally richer form **smang* (*smash* + *bang*), since English does not allow monomorphemic sCVC words where the two Cs are nasal (Davis, 1988). The fact that blends are subject to stem phonotactics supports the claim that blends are monomorphemic despite their polymorphemic base.

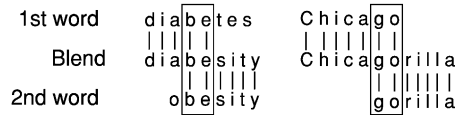

Figure 1 Segmental overlap.

The Switch Point at Segmental Overlap

Contrary to the principle given above, there are blends consisting of more, and sometimes fewer, syllables than the longer base word. In many cases, this is due to the presence of one or more segments (shown in boldface below) shared by the two base words. In such cases, the position of the shared segments determines the 'switch point' of the blend, i.e., where the first base word ends and the second begins (see Table 4).

The selection of the position of the shared segment(s) as the switch point contributes to segmental maximization. The shared segments overlap and thus correspond to segments in both base words, allowing more segments from each word to be preserved in the blend. For example, *diabesity* preserves *diabe* from *diabetes* and ***besity*** from *obesity*. Notice that in *Chicagorilla* all segments of the base words appear in the blend. Of course, the more segments of the base words in the blend there are, the more transparent the base words are (see Figure 1).

Segmental overlap by the shared segments may also determine the order of the base words in exocentric blends (in which the order of the base words is not determined by the head–modifier relation) (see Table 5). There are cases where only one order of the two words allows a segmental overlap of the shared segments.

The requirement to have the switch point at the segmental overlap usually overrides the requirement to maintain the same number of syllables in the blend as in the longer base word (see Table 4). In a few cases, such as *Bisquick* 'quick biscuit.' it also overrides the order imposed by the head–modifier relation (Algeo, 1977). However, there are plenty of blends that meet all the requirements (see Table 6).

Table 4 The switch point at the overlap of the identical segments shared by the base words

Blend	*Base words*	*Expected number of syllables*
Chica**go**rilla (5)	Chica**go** (3) + **go**rilla (3)	*Chicalla (3)
cine**ma**gpie (4)	cine**ma** (3) + **ma**gpie (2)	*cinegpie (3)
croi**ssan**dwich (3)	croi**ssant** (2) + **san**dwich (2)	*croiwich (2)
dia**be**sity (5)	dia**be**tes (4) + o**be**sity (4)	*diasity (4)
esca**li**ft (3)	esca**l**ator (4) + **li**ft (1)	*escalalift (4)
lu**mi**st (2)	lu**mi**nous (3) + **mi**st (1)	*lumimist (3)
op**t**ronic (3)	op**t**ic (2) + elec**t**ronic (4)	*optictronic (4)
transis**t**ena (4)	transis**t**or (3) + an**t**enna (3)	*transisna (3)

Table 5 The switch point at the shared segments determines the order of the base words

A + B – Overlap of shared segment(s)		*B + A – No overlap of shared segment(s)*	
beef + buffalo	beefalo	buffalo + beef	*buffabeef
clam + tomato	clamato	tomato + clam	*tomaclam
window + wall	windowall	wall + window	*wallindow
polo + lacrosse	polocrosse	lacrosse + polo	*lacrolo
oval + elliptic	ovalliptic	elliptic + oval	*elliptal

Table 6 Blends that meet all the requirements

Blend	*Base words*
advertainment (4)	advertisement **(4)** + entertainment **(4)**
dynetic (3)	dynamic **(3)** + magnetic (4)
narcoma (3)	narcotic **(3)** + coma (2)
shamateur (3)	shame (1) + amateur **(3)**
snoblem (2)	snob (1) + problem **(2)**
velocitone (4)	velocity **(4)** + tone (1)
westralia (4)	west (1) + Australia **(4)**

The Switch Point at Syllable Constituency

When the two base words do not have a shared segment, the syllable structure plays a role in determining the switch point. In monosyllabic blends, derived from two monosyllabic base words, the switch point (marked with •) must be at the onset–nucleus boundary (see Table 7). The question is: which word contributes its nucleus, the first (CV•C) or the second (C•VC)? It appears that there is a preference for the latter option; that is, the first word contributes only its onset and the second contributes its nucleus and coda, i.e., its entire rhyme (Kubozono, 1990).

Since the onset and the nucleus are perceptually more salient than the coda, this division allows the blend to preserve one perceptually salient element from each base word, i.e., the onset from the first word and the nucleus from the second. There are, however, several exceptions, some of which are due to lexical blocking, for example, *slosh* (**slush* – lexical blocking) from *slop + slush; boost (*boist) from boom + hoist; and moorth (*mearth – lexical blocking) from moon + earth*.

In polysyllabic blends, there is a preference for the switch point to be at the syllable boundary in the blend, which allows maximization of the segmental material (see Table 8). That is, *camera + recorder* yields *cam•corder* rather than **cam•order*. However, there is a restriction on the type of coda–onset contact at the switch point. This restriction, known as the Syllable Contact Law (Vennemann, 1988), requires

Table 7 The switch point in monosyllabic blends

Base words	*C•VC W1 word onset – W2 nucleus + coda*	*CV•C W1 onset + nucleus – W2 word coda*
blank + beep	bleep	*blap
blow + spurt	blurt	*blort
smoke + haze	smaze	*smoze
Swiss + watch	swatch	*switch
bump + conk	bonk	*bunk
spiced + ham	spam	*spim
snazzy + ritzy	snitzy	*snatzy

the coda to be more sonorous than the adjacent onset. When this requirement is not met, or when the distance in sonority between the coda and the onset is insufficient, the switch point is at the onset–nucleus boundary of the second word (as in monosyllabic blends). Thus, *rocket + balloon* does not yield **rock•lloon*, due to the offending *kl* contact and therefore the surface form is *rock•oon*.

Conclusion

The discussion above suggests that the formation of blends is governed by several principles that together determine the order of the base words, the size of the blend, and the switch point.

The order of the base words is determined by the head–modifier relation, requiring the head to follow its modifier (see Table 1a). In the absence of such a relation, i.e., in an exocentric relation, the phonology plays a role. When the two base words have one or more shared segments, the order of the base words is such that these segments overlap (Table 6). In the absence of shared segments, segmental maximization determines the order (Table 3).

The number of syllables in the blend is also determined by the overlap of the shared segments, which demarcate the switch point (Table 4). In the absence of a shared segment, the number of syllables in the blend is identical to that in the longer base word (Table 2). If the two base words have an identical number of syllables, then segmental maximization plays a role (Table 3).

The switch point is determined by the shared segments, which overlap in the blend (Tables 4 and 5). In the absence of a shared segment, the switch point is determined by syllabic constituency. In monosyllabic blends, the switch point is at the onset–nucleus boundary, such that the blend preserves the onset of the first word and the nucleus plus the coda of the second (Table 7). In polysyllabic blends, the switch point is at the syllable boundary, in cases where the

Table 8 The switch point in polysyllabic blends

Base words	*Switch point at syllable boundary*	*Switch point at onset–nucleus boundary*
camera + recorder	cam•corder	*cam•order
color + asbestos	color•bestos	*color•estos
proletariat + cult	prolet•cult	*prolet•ult
smother + suffocate	smother•cate	*smother•ate
sun + reflector	sun•flector	*sun•ector
rudder + elevator	rudder•vator	*radder•ator
brush + terrific	*brush•riffic	brush•erific
cattle + buffalo	*cat•ffalo	catt•alo
earth + moon	*earth•moon	earth•oon
hurricane + balloon	*hurric•lloon	hurric•oon
molecule + organism	*molec•nism	molec•ism
pink + peppermint	*pink•permint	pink•ermint
rocket + balloon	*rock•lloon	rock•oon
slanting + perpendicular	*slant•pendicular	slant•endicular
zebra + mule	*zeb•mule	zebr•ule

coda–onset contact respects the Syllable Contact Law; otherwise, it is at the onset–nucleus boundary (Table 8).

The principles governing the formation of blends are not always obeyed. The few exceptions found reflect a natural state of affairs in derivational morphology, where exceptions are often due to some extragrammatical factors. There is, however, intergrammatical (nonexceptional) violation of principles, in cases of conflict (e.g., switch point at syllable constituency and the Syllable Contact Law (Table 8). In such cases, one principle has a (language-specific) priority over the other, allowing a deterministic selection of the surface form. A model of conflicting principles and violation under conflict is provided by Optimality Theory (Prince and Smolensky, 1993).

See also: Complex Segments; Compound; Head/Dependent Marking; Neoclassical Compounding; Pragmatics: Optimality Theory; Syllable: Phonology.

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