Featural Linking Elements

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1 Word compounding devices in languages

Languages make use of a variety of devices to signal word compounding, ranging from full phonological sequences (corresponding to full morphemes) to supra-segmental features. Five basic types of compounding processes, based on the formal structure of the compounding devices they use, can be identified: segmental, sub-segmental, supra-segmental, stem suppletive and void (= absence of overt compounding marker), as shown in Table 1.

Table 1. Types of compounding devices across languages (an overlook)

language	*example*	*translation*	*device*	*reference*
A. SEGMENTAL : one phoneme or more				
French	pomme-**de**-terre	potato	*de* (preposition)	
Japanese	otoko-**no**-ko	boy	*no* (enclitic part.)	
Movima	maropa-**n**-di	papaya seed	*-n-* (linking cons.)	Haude 06
Dutch	pann-**en**-koek	pancake	*-en-* (linking el.)	
Russian	hleb-**o**-zavod	bread factory	*-o-* (linking vowel)	Ralli 08
B. SUB-SEGMENTAL: one feature				
Japanese	kawa-**g**ishi	river side	[+voice]	
Korean	p'allɛ-**p'**inu	laundry soap	[+tense]	Labrune 99
Slave	tsá-**dh**éh	beaver skin	[+voice]	Rice 89
Nivkh	c^{h}o-**x**erqo	catch fish	[+cont]	Shiraishi 06
Nêlêmwa	pw**ã**-jam	candlenut tree nut	[+nas]	Bril 04
Basque	su-**p**azter	fire corner	[-voice]	Labrune 14
Malagasy	satro-**p**otsi	white hat	[-cont]	Keenan & Polinsky 98
C. SUPRA-SEGMENTAL: specific tone, stress or accent pattern				
Etsako (Ekpheli dial.)	uno-efa **HH**-LL	father's mouth	associative H tone	Akinlabi 96, 11
Tibetan	see-yöö **H**-H	intellectual	elimination of tonal contour in 1st syll. and change from L to H in 2nd syll.	Meredith 90 in Kenstowicz 94
English	bl**á**ck-mailer	blackmailer	initial stress	
Japanese	kawa-**á**sobi	river game	accent on initial μ of 2nd element	
D. STEM SUPPLETIVE: allomorphic or substractive process				
French	**franc**o-anglais	franco-English	*français* 'French'	
German	**Schlitt**-schuh	skid shoe (skate)	*schlittern* 'slid'	P.c. by anon. reviewer
Basque	**be**t-azal	eye-lid	*begi* 'eye'	Labrune 14
Japanese	**ama**-kaze	rainy wind	*ame* 'rain'	Labrune & Irwin 2021
E. NO OVERT MARKING: but word order relevant				
French	papier-toilette	toilet paper	Head-Modifier	
Japanese	niwa-tori	rooster	Modifier-Head	
Mandarin Chinese	chōŋ-diànqì	electric charger	Modifier-Head	

Note 1: in Table 1, the hyphen denotes the boundary between the constituents of the compound, regardless of the orthographic conventions of the language under consideration.

Note 2: two (or more?) of these devices may be combined in one compound, as in *franco-anglais*, which resorts to types A and E (linking vowel *-o* + shortened allomorph *franc-*), or *kawa-gishi*, which resorts to type B and C (sub-segmental feature + new accent pattern). In addition, several different linking elements may co-exist in one language.

This paper will focus on the second type of compounding devices occurring in determinative compounds (mainly nominal). Such sub-segmental elements will be labelled as *Featural Linking Elements* and defined as follows:

(1) Featural Linking Elements: a definition
A Featural Linking Element (henceforth FLE) is a sub-segmental morphological element which occurs at the boundary between two constituents of a compound, which lacks referential value, and whose function is to signal composition. It is inherently defective, and prototypically involves a consonant or vowel alternation that can be characterized phonologically as one floating feature; in some less prototypical cases it involves a modification in segmental quantity (for instance consonant gemination), or more than one feature, or the realization of a full segment resulting from default filling of an empty position.

2 Aims of talk and research questions

The aim of this talk is to document FLEs across languages and to assert their relevance as morphological objects. I will first present and discuss in more detail examples from a number of languages which arguably possess FLEs: Slave, Movima, Kanamari, Malagasy, Nivkh, Nêlêmwa, Japanese, Korean, Basque and Malayalam. I will also provide a general characterization of the properties of FLEs, comparing them with the other types of compounding devices identified in Table 1. The main research questions which will be addressed are:
- what are the properties of FLEs?
- what is the difference between FLEs and some other linguistic processes which come close to them but are not quite like them, for instance free-standing linking elements, sub-segments, featural affixes (Akinlabi 1996, 2011, Trommer undated), consonant mutation (Wolf 2007), sandhis, etc. ?
- how do morphology and phonology interact in FLEs?
- what type of theoretical issues do FLEs raise?

3 Formal properties of FLEs

Eight formal properties which stand out as characteristic of FLEs have been identified. These eight properties are, presumably, characteristic of FLEs cross-linguistically, and can be viewed as signalling their existence in a given language, thus helping us identify them in a more principled way. However, some of these properties are also found in segmental and tonal linking elements.

a) LOCATION: an FLE is implemented at the boundary between two constituents of a compound (this is also a defining property of free-standing segmental linking elements).

b) SIZE AND PHONOLOGICAL NATURE: an FLE is inferior to a full phoneme in size in its underlying representation. It is inherently incomplete, consisting of one (or sometimes two interrelated) feature/s, or of a prosodic position. It behaves like an autosegment (in the sense of Zoll 1998).

c) LICENSOR: because of its incompleteness, FLEs need a phonological licensor to be realized. The phonological host or licensor can be a full segment or, in some cases, an empty structural position.

d) CONDITIONS OF REALIZATION: The surface realization of the FLE obeys a 'no host, no marker' condition: i.e., in the absence of a proper licensor, the marker fails to be realized. This occurs, for instance, in Japanese *rendaku* which can be represented as a [+voice] FLE (cf. *kawa-**g**ishi* in Table

1): when the second element begins with a consonant that cannot be voiced (either because it is already voiced, or because it has no voiced counterpart in the system), the [+voice] *rendaku* FLE cannot be expressed at the surface level. This also happens with supra-segmental linking elements: e. g. if the association of a high tone to the initial syllable of the second element of a compound is the exponence of a linking element, this linking element receives no exponent if the syllable in question is already high.

e) PREDICTABILITY OF SURFACE FORM: FLEs may receive different surface realizations, depending on their host/licensor, but the crucial point is that the final surface realization is always predictable from the host. In contrast, what is *not* predictable is whether the marker will be inserted or not (see property h below).

f) CONVERGENCE: The result of FLE insertion often resembles the result of the application of certain post-lexical rules or constraints found in the language. A consequence of this is a certain amount of surface opacity, because it is not always clear whether or not a consonant alternation occurring at the boundary between the two elements of a compound is an instance of an FLE or not. For example, in Japanese, it is sometimes impossible to decide whether one is dealing with *rendaku* or post-nasal voicing (Labrune 2012). A tentative explanation would be that some (or all?) FLEs developed out of the morphologization of a phonological process. This is a question that will be further investigated during my talk.

g) MULTI-DIMENSIONALITY: FLE occurrence is very strongly constrained by a variety of morphological, phonological (prosodic and segmental), lexical, etymological, semantic, syntactic and sociolinguistic factors, which interact with each other in a highly complex manner. FLEs are thus multidimensional elements. This is characteristic of linking elements in general.

h) INHERENT VARIABILITY: FLEs appear as fundamentally inconsistent, irregular and variable. This apparently inconsistent character seems to constitute a rather common property of linking elements (see for instance Kürschner & Szczepaniak 2013; Ralli 2008), but it is particularly conspicuous in the case of FLEs. It is explicable by their conditions of realization (see property d), i.e. FLEs are morphological elements whose realization is heavily dependent on phonology and largely determined by the phonological nature of the host. It is also an indirect consequence of the convergence phenomenon in f). On the one hand, the marker cannot be realized in a great number of phonological contexts due to the phonological conditions that constrain its implementation (see d), but on the other hand, an FLE often looks like it is present even when it is not, due to the convergence phenomenon. These two facts are arguably instrumental in allowing a large variability for FLE exponence.

4 Claims

As linguistic objects which exist in between morphology and phonology, FLEs seem to have escaped the attention of morphologists and phonologists. My claim is that FLEs are morphological objects that represent an intermediate stage between fully segmental linking elements like the German *fugenlaut* or the linking vowels of Greek or Russian, and supra-segmental ones. Like segmental linking elements, FLEs have segmental exponence but, like prosodic elements, they are underlyingly dependent on a host and lack autonomy. All three types of linking elements exhibit a number of similarities in their morphological behaviour, in their functions, in the type of processes that they trigger, and in their conditions of application. They essentially differ at the level of their phonological essence and nature. Another claim that will be put forth is that although FLEs seem to be absent from Indo-European languages, they are not rare or anecdotal in the languages of the world. As such, I argue that FLEs should be recognized in their own right, alongside other types of compound markers which have received more descriptive and theoretical attention in cross-linguistic and typological research.

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