Remarks

Remarques

DEGREES OF TRANSPARENCY
IN WORD FORMATION

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New words can be formed by adding suffixes to other words. Derived words formed in this way may be phonologically transparent with respect to their base word, or they may be opaque; *monstrous* is preserved in *monstrous#ness* but not in *monstros+ity*. The juncture between suffix and stem is either a word boundary (#) or a formative boundary (+), and while word boundary derivations are always transparent, formative boundary derivations usually result in stress shifting to a syllable other than the syllable which is stressed in the base word, vowel quality changing, etc.

Transparency of the base word is an important factor in determining speakers' choice of neologism. Thus when speakers are asked to make a choice between a word boundary and a formative boundary derivation from the same base word, they prefer word boundary derivations if the formative boundary derivations are opaque *(sinister#ness, sinister+ity)*, but show no preferences either way if both word boundary and formative boundary derivations are transparent *(jejune#fness, jejun+ity;* Cutler 1980). Similarly, if speakers are presented with a list of words of which some are real words, some nonwords, and some possible words formed with word boundary or formative boundary suffixes, and are asked to judge for each one whether it is an English word, they accept significantly more possible words formed with word boundary than with formative boundary suffixes when the

formative boundary derivations are opaque *(suppressive#ness, suppressiv+ity*; Aronoff & Schvaneveldt 1978), but show no preference either way if both formative boundary and word boundary derivations are transparent *(submarine#ness, submarin + ity;* Cutler 1980). There is also a tendency in spontaneous slips of the tongue for a transparent derived form to substitute for an opaque intended word (for example, *professoral* for *professorial, expection* for *expectation*; Cutler 1980).

It would seem that in choosing neologisms, at least, speakers prefer the base word to remain intact in the derived form. This should not be surprising; since a neologism is presumably a word that the hearer has not heard before, there will exist a considerable risk of misunderstanding unless the speaker is careful to make the origin of the neologism (and thus its meaning) clear. By leaving the base word intact, the speaker allows the hearer to access the entry for the base word in his internal lexicon, and this accessing has probably been achieved by the time the final portions of the word—the word-class-altering suffix—are heard.

There are, however, exceptions to the general preference for transparent derivations; in some cases non-transparent formative boundary derivations are unequivocally preferable to transparent word boundary derivations. To make a noun from a verb like *revitalize,* for instance, can only be done by adding *+ation;* derivations with *#al or #ment* would not be acceptable. Similarly, Aronoff and Anshen (1981) show that English speakers prefer to make adjectives ending with *-tile* (for example, *suppressible)* into nouns by adding *+ity* rather than *#ness.*

Such words involve a shift of primary stress—*revitalize,* but *revitalization, suppressible* but *suppressibility*—and thus cannot be called transparent. But it is noteworthy that the shift of primary stress location is all that has happened to the base word; no consonants have been lost, vowel quality has not been altered. Moreover, although primary stress has shifted towards the end of the word, the syllable which was stressed in the base word is still more prominent than the syllables surrounding it: *revitalization, suppressibility.* Stress, of course, is relative; the relative prominence of the syllables of the base word is preserved; and since the segmental values are also constant, it could be said that as far as the speech processor is concerned, *revitalization* and *suppressibility* are not opaque at all, but functionally transparent—the initial portions of the word have the same segmental values and the same relative prominence as the base word, and thus suffice to enable access of the base word's lexical entry. By the time the

suffix comes along, with a yet more highly stressed syllable, the base word has already been accessed.

Thus transparency appears to be a gradable concept—where *suppressivity* is indubitably opaque, and *jejunity* completely transparent, *suppressibility* is somewhere in between. Neologisms can move some distance along the transparency continuum from the completely transparent end and still remain acceptable.

For instance, when subjects are asked to create their own verbs from adjectives such as *splendid,* they use + *ify* more than half the time, and overwhelmingly prefer the *liquid-liquefy* paradigm, in which the primary stress stays put but the final consonant is lost, to the *fluid-fluidify* paradigm, in which all the consonants of the base word are preserved, but the stress shifts from first to second syllable (Cutler 1980). Similarly, in the word decision task, *excusion* was preferred to *excusement,* although the former involves a change in the final consonant from [z] to [z] which the latter does not.

Thus preservation of the initial portions of the base word would seem to be more important than preservation of the final portions in defining transparency. This is consistent with a model of the mental lexicon in which words are accessed by their left-to-right phonological structure. We may make a suggestion about exactly how much of the base word needs to be preserved for the derived form to be functionally transparent by invoking a concept from one such model of left-to-right lexical access, that proposed by Marslen-Wilson (in press). Marslen-Wilson points out that for each word there is a theoretically earliest point at which it can be identified, namely the point at which it becomes uniquely distinguishable from all other words in the language beginning with the same sequence of sounds; he calls this the recognition point. For some words the recognition point occurs late in the word—thus *intestine* and *intestate* only become distinguishable on their final sound; for others it is fairly early—the only words beginning with [ski], for example, are *sclerotic* and its morphological relatives. (These are assumed to be stored together; there is abundant psycholinguistic evidence that entries in the internal lexicon for morphologically related words are not independent—Murrell & Morton 1974, Snodgrass & Jarvella 1972, Stanners, Neiser, Hernon & Hall 1979.)

If we now determine the recognition points for the acceptably non-transparent neologisms mentioned above, we find that *excuse* becomes distinguishable from other words beginning with [eksk]—*exclude, exquisite, excrescence* etc.—at the occurrence of

the glide [j]; thus the final consonant is not necessary tor access of the base word's lexical entry, and *excusion* should be as effective a cue as *excusement*. Similarly, while there are many words beginning with [spl] (*splatter; splice, splurge, splint* etc.) and even one other with [splen] *(splenic), splendid* and its relatives are the only words beginning with [splend], so that *splendify* should direct the processor to the appropriate lexical entry as easily as would *splendidize. Suppress* becomes indistinguishable from other words beginning with the same sounds at the second [s], at which it parts company from *supremacy,* so that *suppressibility,* in which the first six sounds are the same as in *suppress,* will cue the appropriate entry without difficulty. *Suppressivity,* on the other hand, begins with [sʌp], and will therefore mislead the processor to a group of entries beginning with that sequence *(supper, supplement, suppurate,* etc.). Hence *suppressibility* is acceptable (Aronoff & Anshen 1981), *suppressivity* is not (Aronoff & Schvaneveldt 1978).

It would appear, then, that as long as a derived word preserves the segmental values and relative syllable prominence of the base word up to the base word's recognition point, it will count as transparent. Transparency in word formation is not a matter of preserving intact the whole of the base word, but merely enough of it to enable sure access of the base word's lexical entry. How much is enough will differ from word to word, and depends in the long run on the characteristics of the vocabulary as a whole. Two implications of this dependency are worth noting. First, differences in the size of individual speakers' vocabularies can effect differences in where the recognition point occurs in particular words and hence in the relative acceptability of neologistic derivations from that word. Thus the recognition point of *splendid* and its relatives for a speaker who does not know *splenic* is at the [e], and such a person should find, say, *splenify* as a relative of *splendid* more acceptable than would a speaker who does know *splenic.* Second, addition of new words to the lexicon as a whole could result in a change in the acceptability of totally unrelated neologisms. Suppose, for instance, that a word *excube,* pronounced [ikskjub], were to become a permanent member of the English vocabulary, forcing the recognition point of *excuse* to shift from the [j] to the [z]. Under these circumstances we would expect that speakers seeking a noun meaning 'state of being excused' would show a preference for *excusement,* which preserves the [z], over *excusion,* which does not. The acceptability of neologisms, in conclusion, depends crucially on the ease with which their base

word can be recognized within them, but this in turn depends on the ease with which the base word itself can be recognized as distinct from other words in the language.

NOTE

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