PHONETIC SIGNALS OF SYLLABLE BOUNDARIES

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At the last Phonetics Congress, in Münster, I suggested that the syllable should be regarded as a linguistic unit so constituted as to contain one and no more than one vowel, with the consonants preceding the vowel (onset) and following it (coda) to be determined by applying certain heuristic rules based upon the distributional properties and constraints prevailing in a given language.[1] (This presupposes a definition of vowel and consonant that is not circularly derived from their role in the syllable; such a definition on purely distributional grounds is available.)[2] I still hold this view in essence, although I have modified it in some details, thanks in part to the remarks made by colleagues in Münster, notably Messrs Fliflet, Trim, Hammarström, and Miss Sivertsen. A publication will soon be forthcoming, but I shall be grateful for further comments.

Rather than speaking of the details which I have altered somewhat since 1964, I shall today address myself to the problem of the phonetic signals that mark the syllable boundaries fixed by phonological-phonotactic means.

Most phoneticians would agree that the search for the universal phonetic traits signaling the syllable boundary has been less than successful. To be sure, it was found that various articulatory and acoustic events accompanied what both linguists and laymen would call a syllabic break in a given utterance; but none of these events, as far as I know, has turned out to be the indispensable signal that invariably marks a syllabic break and that never marks anything but a syllabic break. In other words, such signals as have been observed are not unambiguous and specific markers of syllable boundaries.

In part, I believe, this is so because, even though the syllable itself is a linguistic universal (every layman knows of it, and every linguist operates with it), there is no universal syllabic shape, and there is no universal event in the stream of speech whose

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[1] Ernst Pulgram, Consonant cluster, consonant sequence, and the syllable, *Phonetica* 13 (1965) 76—80, (discussion 80—81).

[2] See J. D. O'Connor—J. L. M. Trim, Vowel, consonant, and syllable — a phonological definition, *Word* 9 (1953) 103—122.

occurrence says 'Syllable boundary'. Every language has its particular distributional phonological constraints and phonetic signals at syllable boundaries.

Some years ago, that excellent phonetician, who unfortunately died in the midst of her career, Marguerite Durand, wondered whether the nonsense string *skuks* /skuks/ was one or more than one syllable, and she attempted to find an answer by phonetic means.[3] But she was posing, I fear, a pseudo-problem to which there is no phonetic answer. To the speaker of English or German, /skuks/ is monosyllabic: it has one vowel, an onset /sk/, and a coda /ks/. But to a speaker of Spanish, who can have neither an onset /sk/ nor a coda /ks/ since the first does not appear postpausally and the second not prepausally, the word may well seem trisyllabic, and since he so hears it he also provides in speaking the requisite vowels and pronounces it /es-kuk-se/; in fact, if one took the position that even word-medial /k-s/ is un-Spanish because it places /k/ in coda position while Spanish does not have a prepausal /k/, one would have to posit four syllables, namely, /es-ku-ke-se/ — and tetrasyllabic it may sound to, and be pronounced by, speakers of Spanish.[4] Consequently, the search for phonetic clues betraying the number and boundaries of syllables in *skuks* cannot but be, and has been in many strings of allophones thus examined, fruitless, or at least distressingly inconclusive.

There is yet another, and more impeditive, obstacle to the discovery of phonetic syllable boundary markers, namely, their optionality. I should affirm that the establishment of syllable boundaries on the phonological level by phonotactic means delivers the points where phonetic syllable boundary signals *MAY* occur; but they *NEED NOT* occur. That is to say, there need occur none of the typically unit-final or unit-initial allophones, no pause, no silence, no glottal stop, no clue whatever whereby a given language customarily signals segmental boundaries within the stream of speech. Clearly, therefore, this is one more reason why informants and linguists may disagree not only on the place of the syllabic boundary, but even on its phonetic reality: it simply is not always realized. One knows how many syllables there must be in a piece of discourse: as many as there are vowels; so one naturally wishes to find out how they are bounded against one another. Stating this boundary on the phonological-phonotactic level means no more than saying: This is the place where a syl-

lable boundary is going to be signaled — *IF* it is going to be signaled. But since it not always is, the expectation to discover a specific phonetic event that invariably takes place at every syllable boundary in all languages cannot but be disappointed.

It is this absence of *consistent* phonetic signaling which has prompted some linguists to deny linguistic status and reality to the syllable altogether. Considering, however, the universal usefulness and employment of the syllable in synchronic and diachronic linguistics, one is tempted to paraphrase Voltaire's dictum about God and avow, "Si la syllabe n'existait pas, il faudrait l'inventer."

But the notion of the optionality of something that is claimed to be a universal linguistic unit, demands a word of explanation.

According to what I have said, one might be inclined to conclude that the syllable boundary has two phonetic realizations: an appropriate segmenting signal such as the language under scrutiny provides, and zero. I am, however, reluctant to put it this way because it evokes the relation of phoneme and allophone, or morpheme and allomorph, and would undoubtedly lead to the positing of syllabeme and allosyllable. But that pair of terms is superfluous and misleading because the syllable is not an emic unit in the sense that it serves a distinctive function. (Of course, a syllable may coincide with a distinctive unit if it happens to be coextensive with a phoneme or a morpheme.) Syllabizing an utterance on the phonological-phonotactic level delivers therefore a structural statement on syllables and their shapes in a given language; syllabizing on the phonetic level is something that the speaker does if he so chooses, and that the listener may possibly 'hear' even if the speaker has not provided a signal. But the only reason why the speaker so chooses, or the listener so 'hears', is his desire to divide the utterance into syllables: nothing on any communicative or semantic level of linguistic analysis is thereby accomplished, no functional aim is pursued or attained (except in cases where insistance on syllabation disambiguates a message, e.g., "I said *pee-ring* not *pee-ling*."). Unlike other linguistic units, the syllable is its own and only purpose. And I venture to suggest that precisely this non-functional character of the syllable, this basic meaninglessness of it in an utterance, is what makes its phonetic realization optional, causes syllable boundaries not always to be marked phonetically where phonological-phonotactic analysis places them, and has rendered the signals of syllable boundaries so elusive in teoretical and experimental phonetics.

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[3] Marguerite Durand, La syllabe: ses définitions, sa nature, *Orbis* 3 (1954), 527—533.

[4] As a matter of fact, words with medial /ks/ are rare in Spanish, and usually borrowed, like *axioma* /ak-sįo-ma/—which in popular speech would in any event be changed to /a-ke-sįo-ma/. Setting up a syllabation /a-ksįo-ma/, with syllable-initial /ks/, on the evidence of words composed of *xilo-* /ksilo/ and another morpheme, is not helpful because those words themselves are equally subject to being classified as not completely naturalized loans, and indeed to being pronounced, after naturalization, as /silo/. I am certain that whenever one is forced into a syllabation that runs counter to the distributional requirements of the language, one is faced with a non-assimilated loan (which includes learned words), or an obsolescent or ascendent form: cf. Ernst Pulgram, French /ə/: statics and dynamics of linguistic subcodes, *Lingua* 10 (1961) 302—325.