THE FEATURE "SYLLABIC" IN RESONANTS AND SEMIVOWELS

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From Awedyk's (1976) reassignment of the features Consonantal, Vocalic and Syllabic it follows that

(a) there is always a polar opposition (non-identity) of the features Consonantal and Vocalic, viz. all consonants (including stops, spirants, resonants and semivolwes) are [+consonantal, −vocalic], while vowels are [−consonantal, +vocalic];

(b) as regards the feature Syllabic, vowels are always [+syllabic], stops and semivowels [−syllabic], spirants also usually [−syllabic] (though sometimes [+syllabic]), resonants either [+syllabic] or [−syllabic].

The feature Syllabic is rightly described as a *functional* feature, and as such to be kept clearly apart from inherent features of articulation. However, the feature Syllabic has to be extended, namely by the feature Peak. Resonants (and spirants) when [+syllabic] are always [+peak]. With vowels, only /a/ is always [+syllabic, +peak]; other vowels can be both [+peak] or [−peak]: the more open segment of the diphthong being marked [+peak], unless the principle is changed by some other factor, such as e.g. stress. Diphthongs are, in these terms, defined as combinations of two vocalic segments, one of which is marked [+syllabic, +peak], the other [+syllabic, −peak].

Now, it seems that the system of features becomes unnecessarily complicated this way, and could be simplified, if handled differently.

First of all, if the features Consonantal and Vocalic are always opposed, i.e., [α consonantal, β vocalic] for any segment class, then one of them is clearly redundant and can be dispensed with, the classes being defined equally well by only one of those features and the feature Syllabic. Since, however, the feature Syllabic is of a different type (functional rather than inherent), a better solution seems to be to drop the feature Syllabic altogether, while changing the assignment of the features Consonantal and Vocalic as follows:

stops and spirants [+consonantal, —vocalic],.

vowels [—consonantal, +vocalic],

resonants and semivowels [+consonantal, +vocalic], cf. e.g. the treatment of liquids in Jakobson, Fant and Halle (1952:19).

The above assignment differs from Awedyk's in that the resonants and and semivowels are marked [+vocalic]. As a result we get three distinct classes:

(1) the class of true consonants (obstruents, turbulents)—the only class marked [—vocalic],

(2) the class of vowels—the only class marked [—consonant],

(3) the intermediate (opalescent) class of resonants (sonorants), which includes semivowels.

The true consonant class and the vowel class are by no means unnatural classes: they are each characterized by other features as well; e.g., the consonant class is otherwise marked off by the functional opposition of voice, the vowel class is characterized by [+voice] feature. But the most important thing is that they are at the same time *functional* classes in terms of syllable structure: consonants are non-syllabic, while vowels are syllabic, in a syllable. In this way the feature Syllabic may become redundant.

As regards the third class, that of resonants, it is intermediate between the other two classes (consonants and vowels), both phonetically, and, which is most important, *functionally*. The resonants can be both non-syllabic and syllabic, depending on the (phonetic) context. This is true also of the semivowels which should therefore be included in this class.

The resonant class can be represented as two iso-functional series

(1) m n r l y w
(2) m̩ n̩ r̩ l̩ i u

The first series is non-syllabic, the second syllabic. It is particularly important to realize that the functional relationship of, say, (the semivowel) [w] to (the high vowel) [u] is exactly the same as that of, say, [r] to (syllabic) [r̩], despite differences in notation.

One may, of course, distinguish certain subclasses within the general resonant class, e.g., the semivowels which are phonetically "more vocalic" than e.g. the nasals (which are more "consonantal"), but functionally all are identical, the main (primary) function of the whole class being non-syllabic (=series 1).

The main non-syllabic function follows from the criterion of distribution (cf. Kuryłowicz 1948: note 22). Let T denote any consonant, E—any vowel, R—any member of the resonant class.

Between two vowels, or between a vowel and zero sound (or *vice versa*), the resonants are non-syllabic: ERE, ER, RE.

Between two consonants, or between a consonant and zero, the resonants are syllabic: TR̩T, R̩T TR̩(Skt. dātṛ́nē, OE bearu).

But in the mixed contexts of vocalic and consonantal entourage the resonants are non-syllabic, too: TRE, ERT (Skt. dātrē, OE bearwes), this, then, being decisive for their primary (unmarked) non-syllabic function. In other words, resonants become syllabic (marked, secondary function) only if not vowel adherent.

Parallel to the fact that the resonant class can be phonetically subdivided into "more vocalic" and "more consonantal" subclasses, there may also be functional subdivisions in the (mixed) contexts: in the (onset) TRE context the resonants are "more consonantal" than in the (coda) ERT context, where they are "more vocalic", in other words, in TRE they belong to the preceding consonant (syllable margin), in ERT—to the preceding vowel (syllable peak), cf. e.g., voicelessness or friction in the former case, and vowel colouring, diphthongization, or nasalization in the latter.

Awedyk's remark as to the vowel /a/ being always [+syllabic, +peak] can be extended to cover other non-high vowels, i.e., /e, o/. On the other hand, English /ə/ can be regarded as a non-low vowel, and aligned with /i, u/. This explains the "shakiness" of such English diphthongs as e.g. /iə, uə/ but not e.g. /ei, oi/.

The problem with Polish /r/ in *krwi* (/l/ in *lnu*, etc.) is that in Polish (similarly as in Russian), there is no separate ambivalent functional class of resonants: /r/ and /l/ are true consonants, i.e., [+consonantal, —vocalic], and incapable of syllabic function. Unlike in English, they are not vocalized in pre-consonantal or final position (e.g. *park*, *teatr*). Like other consonants, they can e.g. be palatalized (cf. also alternations $l \sim l$, $r \sim rz$). As true consonants, they enter consonant clusters, which are generally freer than English clusters. But in English, too, clusters of true consonants are quite common which do not obey the sonority principle, cf. initial /sp-, st-, sk-/, final /-ps, -ts, -ks/.

Similarly with the semivowels: in Polish /j/ is a full consonant, cf. also consonantal functional values of both Polish *w* and *l*. The analysis of Polish *maj* and English *my* will be, respectively:

Polish:

$$\begin{matrix} /\text{m} \\ \left[\begin{matrix} +\text{consonantal} \\ -\text{vocalic} \\ \text{Fx} \end{matrix}\right] \end{matrix} \quad \begin{matrix} \text{a} \\ \left[\begin{matrix} -\text{consonantal} \\ +\text{vocalic} \\ \text{Fx} \end{matrix}\right] \end{matrix} \quad \begin{matrix} \text{j}/ \\ \left[\begin{matrix} +\text{consonantal} \\ -\text{vocalic} \\ \text{Fx} \end{matrix}\right] \end{matrix}$$

English:

$$\begin{matrix} /\text{m} \\ \begin{bmatrix} +\text{consonantal} \\ +\text{vocalic} \\ \text{Fx} \end{bmatrix} \end{matrix} \quad \begin{matrix} \text{a} \\ \begin{bmatrix} -\text{consonantal} \\ +\text{vocalic} \\ \text{Fx} \end{bmatrix} \end{matrix} \quad \begin{matrix} \text{i}/ \\ \begin{bmatrix} +\text{consonantal} \\ +\text{vocalic} \\ \text{Fx} \end{bmatrix} \end{matrix}$$

The difference between the Polish and English sequences above can, then, be due to the fact that in Polish there are no segments marked [+consonantal, +vocalic], i.e., no resonants. Note, that in Awedyk's scheme the specified features of Polish /j/ were identical with those of /m/, i.e., in both cases typical of consonants. But now the features Syllabic and Peak are both disposed of. In this way there is no mix-up of inherent and functional features which seems as undesirable in phonology as mixing up semantic and syntactic criteria in grammar.

Finally, it may be added that in English there exists also the combination of features [−consonantal, −vocalic] which characterizes the aspirate /h/. Polish /h/ (*h*, *ch*) is, of course, again purely consonantal, i.e., [+consonantal, −vocalic]. The systemic difference between Polish and English in this respect, then, seems to be that in Polish there is only a two-term opposition of consonants vs. vowels, while in English there is a four-term system of segment classes: consonants, vowels, resonants, and /h/.

REFERENCES

Awedyk, W. 1976. "Some remarks on generative contrastive phonology". (in this volume).

Jakobson, R., Fant, C. G. M. and Halle, M. 1952. *Preliminaries to speech analysis: the distinctive features and their correlates*. Cambridge, Mass.: The MIT Press.

Kuryłowicz, J. 1948. "Contribution à la théorie de la syllabe". *BPTJ 8*. (Reprinted 1960 in *Esquisses linguistiques*. Wrocław — Kraków: Ossolineum.)