

BEATS AND BINDING LAWS INSTEAD OF THE SYLLABLE

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ABSTRACT

The paper constitutes a short account of a proposal to undermine the syllable as a unit of speech organization in favour of beats and binding laws. The framework underlying the discussion is Natural Phonology (and Morphology) as originated by Stampe and Donegan and developed by Dressler. A brief critical discussion of the syllable is conducted and followed by a presentation of the paper hypothesis.

1. INTRODUCTION

Both phonetics and phonology assume some way of existence of the syllable. I suggest an attempt at detaching oneself from a tradition, cherished for centuries, to acknowledge some form of the syllable as useful and indispensable in phonetic/phonological description. When looked at from outside and with a sufficient distance to obtain objectivity, what used to be called a syllable may turn out to be an unnecessary and mistaken complication of the already necessarily complex description of the speech chain. The problem as set above does not qualify for a paper-size discussion. Basically, then, I will shortly present here my counter-proposal to the syllable.

2. THE FRAMEWORK

The discussion is conducted in the framework of Natural Phonology (and Morphology) (cf. [3]).

Thus, firstly, the criteria and explanations I propose with reference to the segmental, prosodic, semantic/semiotic and lexical/morphological levels of language are of a functional nature. Secondly, whenever terms like "principle", "law" or "rule" are mentioned, they are to be understood as universal or language-specific preferences, and not (!) absolute generalizations. I constrain the existence of the latter (one consequence of which is avoiding the notion of exception) to certain language-specific "intensifications" of universal preferences.

3. THE SYLLABLE ?

If recognized as an identifiable entity, the syllable needs to possess some unity, constituent structure and boundaries.

As to the unity of the syllable, there exists phonetic evidence for a certain stability of consonantal transitions to and from vowels rather than for a stability of the whole (?) syllable (cf. e.g. [5]). Speech error evidence seems to demonstrate a greater cohesiveness of a VC sequence as opposed to a CV one (cf. [2]), while CV is, at the same time, generally acclaimed to be a basic syllable structure.

No matter a great variety of types of constituent structures

posited for the syllable, constituents tend to get organized according to the scale of sonority. However, the requirement for particular sonority slopes appears to be often violated by the languages of the world. To retain the syllable, "rescue strategies" are then introduced, e.g. Rubach and Booij (cf. [7]) would assume that an edge consonant (word-edge) does not count for a sonority slope. Doesn't this move make sonority useless? To Sievers (cf. [8]) consonants violating the expected gradation of "Schallfülle" formed the so called "Nebensilben" dominated, however, by "Hauptsilben". Two kinds of the syllable having different status - isn't it a complication? As a unit, the syllable needs to possess determinable boundaries. Boundary placement, or, in other words, division into syllables (of words or longer stretches of speech), however, turns out not to be a straightforward procedure. Available hints come from, basically, two very different sources: first, speakers' ability to "syllabify", second, the application of some phonological processes in the "syllable domain". But are they really hints for "syllable boundary placement"? As for the former source, what speakers are able to do is to distinguish in the flow of speech those sounds which are more prominent against the less prominent background, and the chunks that arise in this way are listed in the form parallel to counting. The problem with the latter source concerns the circularity of argumentation it introduces which entails arbitrariness of boundary placement: one and the same process may both condition and be conditioned by the syllable boundary (e.g. a tense vs. lax vowel opposition in

English, or "syllable final" devoicing in German). Reliably enough, both speakers and phonological processes have access to words, on one hand, and to feet, on the other. Access to words is guaranteed by the existence of a lexicon; access to feet - by the fact that it is impossible not to act rhythmically (cf. [1]). A functional unit of phonology which is smaller than a word, and which shows its accessibility better than a syllable, is a beat.

4. HYPOTHESIS

I suggest that the notions of a beat, word and foot as well as morpheme suffice to make it possible for the functions of the syllable to be accounted for without maintaining it as a unit. A basic speech skeleton consists of regularly recurring beats. Beats are primary, (preferably) vocalic figures against the consonantal ground. They are preferably vocalic due to the saliency potential inherent to vowels, although consonants might take over a beat function in a number of circumstances (cf. below). Inter-relationships between beats and pre-beat and post-beat consonants are specified by a set of binding laws which look both at a "micro-level" - constituted by a single beat and consonants surrounding it, and at a "macro-level" - governed by rhythm. Consonants clustering between beats coexist according to the preferred order as well. A universal preference for isochrony is rooted in universal principles of human behaviour which are reflected in one statement: it is impossible not to act rhythmically (cf. 3. above). In speech, an underlying organizational principle predicts a default tendency for equal time intervals between beats. The latter tendency is realized in different degrees

and modified versions to give a variety of typological and language-specific distinctions among particular tongues. From this derives a continuum of language types whose one end is occupied by the so called "iso-syllabic" languages - i.e. the ones in which, in the extreme case, all beats are regularly distributed timewise; and the other end is occupied by the so called "iso-accentual" languages - only stressed beats count for rhythm. Parallel to the typological hierarchisation there exists a language-specific differentiation as to how particular languages realize a universal preference for even beat distribution.

Universally, the inter-relationships between vowels and consonants in a speech chain are based on the following criteria: sonority, segmental strength, perceptual salience, ease of articulation, and symmetry in binding consonants to vowels in the speech chain. The latter is meant to signify a proportional in numbers grouping of consonants around beats which supports an ideally regular beat distribution timewise. This criterion, however, is easily overridden by other preferences. By means of the above criteria one can account for the universally preferred structure of a foot i.e. a C₁V₁C₂V₂ with a trochaic rhythmic pattern (cf. [4] for details). In a one-beat content word there is a preference for a CVC structure or for a CVV one (i.e. a consonant followed by a long vowel or a diphthong) by means of which stress on this only beat is conveyed (at least partly, beside a potential change in pitch and loudness). These structures are traditionally called "heavy syllables". Thus, what used to be called a "heavy syllable" is the preferred structure of a

minimal content word. A "light syllable" stands for "less than that" i.e. a single beat structure not able to satisfy the above minimal content word requirements.

It is the number of vowels that is indicative of the number of beats in the first place. There are two other sub-cases, however. Firstly, the sequences V:C and VCC(C)o..n, although they involve one vowel, count for more than one beat, i.e. they form a category in between a one-beat structure and a two-beat structure. Secondly, a consonant may take up a beat function.

5. CONSONANTAL BEATS

Preferably, a consonantal beat is separated from the nearest vowel by a consonant of a low sonority (or, at least, lower than that of the consonantal beat itself).

Universally, consonantal beats are assigned post-lexically: they function as a real-time resolution of a rhythmical conflict. Thus, for instance, if a vowel is elided in fast/casual speech, one of the neighbouring consonants may take over a beat function (e.g. Eng. ['hæpɪ], Pol. ['fʃs(t)kɔ], or, otherwise, a cluster that results from the reduction may get simplified (e.g. Pol. ['fʃstko] → ['fsko]). Those clusters are originally, i.e. immediately before vowel elision, disfavoured by universal word phonotactics as well as, often, by language-specific phonotactics. If such a phonotactically disfavoured cluster is legalized in a given language (pre-)lexically (e.g. Pol. ['mgwa], ['rtɛŋtɕ], ['mɛɕ] or ['nastɛmpstf]), a post-lexical resolution is either to weaken a sonorous element (a potential consonantal beat) or to reduce a cluster of consonants (if their sonority is levelled). Language-specifically, however, consonantal beats might arise in

a different fashion i.e. they either become lexicalized as a result of a generalization of a post-lexical rule (cf. Eng. ['lɪtɪ]) or they are lexically assigned in the first place (cf. Czech [krɛmoval] or Serbo-Croatian [krka]). In other words, consonantal beat assignment is a process which has reached different levels of application in particular languages, ranging from full lexicalization to phonostylistics.

6. INTER-BEAT SEQUENCES

There is a preferred order of consonants from one beat to another with respect to their sonority value. Specifically, what is favoured is a constant fall in sonority starting just after a beat and finishing just before another one (which constitutes a rise). This general preference can be most obviously overridden by morphology (a break in the sonority fall enhances morphological transparency), but also, language-specifically, within a morpheme.

Apart from the preference concerning the inter-beat consonants themselves, there are certain regularities concerning the way in which the consonants tend to bind to beats. These bindings derive from the criteria discussed in 4. above, as well as from the just mentioned preference. And, thus, in a VCV sequence, a C is preferably bound to the following V. This mirrors word and foot-initial binding, but notice also that in a VCV the consonantal sonority fall is impossible - there is only a rise on the second V thanks to the preceding C, which draws them together. In a VCCV, consonants bind to a respective preceding and following V (cf. symmetry in 4. above), unless sonority or stress-assignment criteria intervene (e.g. more

consonants are bound to a stressed beat). If there are more than two consonants in an inter-beat cluster, a default binding is as above, i.e. one C is bound to the following V and the remaining consonants are bound according to the symmetry, stressed-beat and sonority slopes principles. The default binding, however, is subject to a number of potential modifications of a language-specific and/or post-lexical (phonostylistic) nature.

Thus, generally, beat-counting constitutes the basic organizational principle of the speech chain, while binding laws should be understood as a set of universal potentials invoked in a language-specific way by particular languages. The reader is referred to [4] for a more comprehensive treatment of the issue.

7. REFERENCES (SELECTED)

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