

# CZECH QUANTITY IN PARADIGMATIC AND SYNTAGMATIC PROCEDURES

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1. The lexicon and the grammar in the majority of Czech dialects employ a vowel system habitually described in terms of quantitative correlation. Native Czechs normally do not confuse the name of the letter  $\acute{a}/a_1/$ <sup>1</sup> or  $\acute{u}/u_1/$  with the conjunction  $a/a_2/$  or the preposition  $u/u_2/$ , or  $d\acute{a}l$ , meaning 'distance' with  $dal$ , meaning 'he gave'. or  $p\acute{a}lív\acute{a}$  (burns) with  $paliva$  (of the fuel) and  $p\acute{a}lív\acute{a}$  (burning). Since quantity is distinctive in accented and unaccented syllables, it plays a part in the differentiation of monosyllabic as well as polysyllabic words. In this way, for example,  $/mi_2li_2/$  (they washed) is distinguishable from  $/mi_1li_1/$  (he deceives) which in turn is distinguishable from  $/mi_2li_1/$  (nice) and  $/mi_1li_2/$  (of the mile). The number of possible combinations grows with the number of syllables, although, as Trnka (1966)<sup>2</sup> has pointed out, not all possible combinations are equally utilized. It is noteworthy that in Czech poetic usage quantitative distinctions do not prevent acceptable rhyming; a rhyme  $zahrad\acute{a}$  —  $zahr\acute{a}t$  is even cited by the Czech aesthetician Mukařovský as an example of complete homophony („slova úplně stejnozvuchná“).<sup>3</sup>

2. The literature on Czech vowels is quite extensive. The phonologically oriented inquiries of the early days of linguistic functionalism were naturally concerned with the status of the quantity within the sound system. Mathesius (1929)<sup>4</sup> was in favor of interpreting the quantity of Czech vowels as a modifying feature (“un élément modificateur”) which changes the functional aspect of a phoneme without changing it into a different phoneme (“qui ne fait pas passer celui-ci à un phonème différent”). On the other hand, Jakobson 1931/62)<sup>5</sup> insisted on the distinction between short and

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<sup>1</sup> Subscripts 1 and 2 denote long and short vowels respectively. Cf. Jakobson R., and Halle M. “Tenseness and Laxness”, *R. J. Selected Writings*, I (1962) as well as Fant, G. “Theory of Distinctive Features”, *STL-QPSR-4/1966*.

<sup>2</sup> Trnka, B., “The Distribution of Vowel Length and its Frequency in Czech”. *Prague Studies in Mathematical Linguistics*, 1, (1965).

<sup>3</sup> Mukařovský J., *Kapitoly z české poetiky*, 2 (Prague, 1948), 40.

<sup>4</sup> Mathesius V., „La structure phonologique du lexique du tchèque moderne.“ *Travaux du Cercle Linguistique de Prague*, I (1929), 71.

<sup>5</sup> Jakobson, R., “Phonemic Notes on Standard Slovak”, in *Selected Writings*; I (s-Gravenhage. 1962), 224. Cf. „Z fonologie spisovné slovenštiny“, *Slovenská miscellanea* (Bratislava, 1931).

long phonemes and included into his long series also the diphthong "ou" which he characterized as "an indecomposable phoneme". In accordance with his concept of structure, he put a particular emphasis on his argument that "it is the diphthong as a whole which is endowed with the quantitative feature of length and not its components *per se*."

3. Phonetically oriented studies, on the other hand, were primarily concerned with the articulatory characteristics of Czech vowels. Frinta<sup>6</sup> in 1909 pointed out that short and long vowels in Czech are differentiated not only by the degree of duration but also by the degree of openness (or narrowness). In 1928, Chlumský<sup>7</sup> submitted the length of Czech vowels to accurate measurements and in detailed statistics disclosed the relativity of duration in all vowels whether long or short. He also took into account various attendant conditions such as word stress, emphatic stress, tempo of the utterance and certain aspects of personal speech habits. Moreover, he undertook to study the role of various consonants and consonantal groups and demonstrated that a vowel which is identified as being long in certain syllabic structures can have, in fact, shorter duration than a vowel which is identified in a different environment as being short. The long *á* in the sentence *Jde k Pátečkovům* was found, for example, to be two centiseconds shorter than the short *a* in the phrase *slovo ba*. Hence the existence of short-long ( $L_s$ ) and long-short ( $S_l$ ) vowels in Czech was given an exact documentation.

4. Although numerous inquiries concerning Czech vowels have illuminated many essential problems, the challenge has not yet diminished. Some of the most crucial questions pertain, in fact, to the relativity of duration and to its bearing on the distinctive values of the Czech vowels. In the inspiring *Preliminaries to Speech Analysis* (1955)<sup>8</sup> a suggestion was made that "in the Czech *pravá práva* 'true rights', the first vowel of the first word is identified as short in relation to the second, long vowel, while the second word displays the inverse relation." In other words, to use the reformulation in *Fundamentals of Language* (1956)<sup>9</sup>, "the quantity of a vowel may be established only in relation to the quantity of other vowels within the context or to the subsequent consonants."

While this stimulating observation about the syntagmatic, context-oriented procedures opens new vistas, it does not explain how *práva* (he/she/it washes) is distinguishable from *prava* (right), or *pálivá* from *paliva*; nor does it explain why the three *a*'s in *chvátává* are identified as long while the three *a*'s in *Svatava* are identified as short. Moreover, the syntagmatic, context-oriented comparison cannot explain the fact that a native speaker of Czech can produce and identify short and long vowels

in isolation and can use the very sound of the vowels as their names by calling them *a, á, e, é, i, í, o, ó, u, ú*. The adequate identification is obtained even if the vowel is carefully isolated from other utterances of the same speaker or to a considerable degree lengthened or shortened on a mechanical stretcher by changes in speed.

5. That a Czech native speaker is able to distinguish isolated short and long vowels in the absence of their long counterparts in the context, discloses the relevance of paradigmatic procedures oriented towards the system *in absentia*. If the explanatory statement is to be focused on the perceptual aspects, the question arises, whether such a paradigmatic identification of quantity with the help of a system *in absentia* primarily depends on the perception of duration or rather on some inherent features such as tenseness vs. laxness with relative duration as a concomitant factor. If the quantitative value of a vowel were primarily determined within the system by its duration, a class of shortness would be distinguished from the class of length regardless of the intensive variability (and overlapping) of their actual manifestation in the context. On the other hand, if the decisive information would primarily depend on the qualitative features, Czech vowel quantity should be more properly called vowel quality.

There are, however, good reasons to assume that Czech vowel quantity is determined within the system neither by any inherent nor by any prosodic feature *per se*, but by a structural value identifiable by an interaction of both syntagmatic and paradigmatic procedures. Such an interaction is always to be expected whenever variable duration and other factors, involved in the articulatory manifestation, interfere with the paradigmatic procedures. Since the quantity of a Czech vowel cannot be established only in relation to other vowels or consonants in the context, an interaction of syntagmatic and paradigmatic procedures seems to enable coordination of the contextual data with the data which can be derived only by means of a system *in absentia*, that is to say, in the memory.

## DISCUSSION

*Frinta:*

Les voyelles courtes en tchèque peuvent être allongées par l'emphase, mais les longues ne se raccourcissent pas. La perception de la longueur chez les étrangers dépend de la circonstance de leur langue à eux. Si elle possède aussi la longueur phonologique, elle est perçue et bien imitée. Au contraire p.ex. les Polonais distinguent difficilement la longueur en tchèque. Les Russes prolongent les voyelles accentuées, mais pas les atones en parlant tchèque.

<sup>6</sup> Frinta A., *Novočeská výslovnost* (Prague, 1909).

<sup>7</sup> Chlumský J., *Česká kvantita, melodie a přízvuk* (Prague, 1928).

<sup>8</sup> Jakobson, R., Halle, M. and Fant, G., *Preliminaries to Speech Analysis* (Cambridge, 1955)<sup>2</sup>

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<sup>9</sup> Jakobson R., and Halle M., *Fundamentals of Language* (The Hague, 1956), 25.