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SOME PHONOTACTIC PARALELLS ON SYLLABLE LEVEL: COMPARISON OF PRE-VOCALIC POSITIONS IN BULGARIAN, ENGLISH AND HUNGARIAN

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Ина Вишоградска. ЗА НЯКОИ ФОНОТАКТИЧНИ ПАРАЛЕЛИ НА НИВО СРИЧКА: СРАВНЕНИЕ НА ПРЕДВОКАЛНИТЕ ПОЗИЦИИ В БЪЛГАРСКИ, АНГЛИЙСКИ И УНГАРСКИ ЕЗИК

Работата представя нелинеен модел на сричката и по-точно, на предвокалните консонантни струпвания (предядро) за българския, английския и унгарския език в сравнителен план. За целта се разглеждат консонантните клъстери в началото на думата в трите сравнявани езика. Наборът от съгласни демонстрира конкретни „предпочитания“ за дадена позиция в рамките на предядрото и появата им на друго място в структурата е крайно ограничена. Това позволява да се дефинира специфичен модел на групиране на предвокалните съгласни. Тяхното организиране в няколко (по-точно четири) групи разкрива, че независимо от фонотактичните особености в трите езика, се наблюдава значителен паралел при конструирането на предядрото.

Ключови думи: сричка, фонология, сравнителен анализ

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Ina Vishogradska. SOME PHONOTACTIC PARALELLS ON SYLLABLE LEVEL: COMPARISON OF PRE-VOCALIC POSITIONS IN BULGARIAN, ENGLISH AND HUNGARIAN

This work presents a non-linear model of the syllable, more precisely, of the onset, in a comparative plan for Bulgarian, English and Hungarian. For that purpose, the word-initial consonantal distribution in all three languages is outlined. The consonantal inventory of the languages demonstrates preferences to a given position which corresponds to a certain set of consonants, and their occurrence somewhere else within the structure is highly restricted. This allows to reveal a certain pattern in the groupings of the consonants. The organizing of the onset consonants in sets comes to show that regardless of the specifities of the phonotactics in the three languages, we can actually see a rather impressive parallel between them.

Key words: syllable, phonology, comparative analysis

1. INTRODUCTORY REMARKS

It is not exaggerated to say that in almost any phonological (and phonetic, for that matter) theory there have been attempts to give a tentative explanation of what the syllable is. The development of various phonological theories, challenging the linearity of the presentations in Chomsky and Halle's (1968) *Sound Pattern of English (SPE)* (such as Autosegmental phonology, Metrical phonology, Government phonology, Optimality theory, etc) shows a rising interest within the fields of phonology. In the last decade, phonological domains and stress have been fruitfully investigated and the syllable has regained its importance in the works of the phonologists. Generally, there is no doubt of its existence; however, it is difficult to achieve a constituent definition of a syllable. As Pulgram (1970) puts it: "... the syllable has been employed in synchronic and diachronic investigations without being defined – on the assumption, it seems, that everyone knows what it is. Everyone does not know"[2]. A number of attempts have been made to provide a precise definition of the syllable both from phonetic and from phonological point of view. With the concrete aims of the present investigation in mind, the following theoretical model is adopted: the syllable is not only a phonetic unit but also a phonological unit. It forms part of the phonological structure of a language, which as a whole serves as a framework for the expression of phonological generalisations (Giegerich 1992: 131). Traditionally, generative phonology has been rule-orientated rather than structure-orientated, thus the arguments for the re-introduction of the syllable within this paradigm are based on the idea that rules therefore refer to syllable structure.

The aim of this work is to present a structure-orientated model of the syllable for Bulgarian, more precisely, of the onset in a contrastive plan. For this purpose,

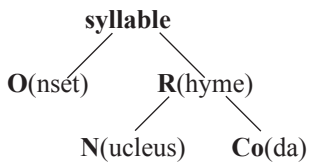
[2] Cited from Basbøl 1990: 192–215.

the non-linear model developed for English is applied, since, undoubtedly, this is one of the languages which has received most attention in that area (cf. Durand 1990). By giving the word-initial consonantal distribution in Bulgarian, English and Hungarian, I attempt to show a certain pattern in the grouping of the consonants. The groupings in all three languages are compared to detect whether there are some systematic preferences of the consonants for a given position in the onset. I have chosen to examine languages from different language families, two of them of Indo-European origin (English – Germanic and Bulgarian – Slavonic) and one – of Finno-Ugric (Hungarian). It is certainly intriguing to see if we can find parallels in the onset structure of these languages. In the following discussion I outline the English and Hungarian particularities and examine more thoroughly the Bulgarian structure, since such interpretation lacks presence in the literature.

2. THEORETICAL CONSIDERATIONS

As already mentioned, there have been different proposals, dealing with the eternal structure of the syllables. By definition (Trask 1996: 345) it is a "purely phonological unit, consisting of a single peak of intrinsic sonority". It is now usual to subdivide it into an *onset* (O) – opening segment and a *rhyme* (R), where the *rhyme* is further divided into a *nucleus* (N) (or *peak*) – central segment and a *coda* (Co) – closing segment. One of the most influential models of the syllable, which is regarded as a traditional representation, is the one proposed in (1) (Selkirk 1982):

(1)



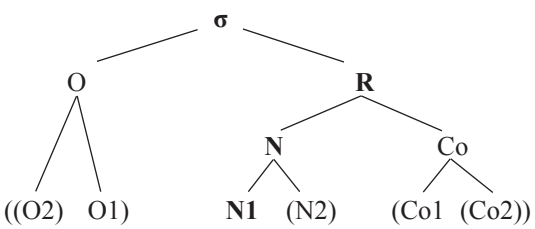
Such model deals with the construction of the syllable in general. Different languages put various restrictions on the actual form of the syllable, depending on the phonological rules (and not only) that operate within a given language. Nevertheless, it is recognized that there is a ranking of the segments in the syllable and there is a long tradition in phonology, concerning the organization of the element in the syllable, known as sonority hierarchy[3]. It is a common way of specifying

[3] margin nucleus margin
obs > *nas* > *liq* > *glide* > *vowel* < *glide* < *liq* < *nas* < *obs*
least vowel-like >most vowel-like< least vowel-like
This ordering of the segments is also known as *Sonority Sequencing Principle* (Kenstowicz

the possible syllables of a language, determining that in each syllable there is a segment constituting a sonority peak (cf. the footnote) that is preceded and/or followed by a sequence of segments with decreasing sonority values. The *Sonority Sequencing Generalization* (SSG) does not always produce sequences, which are well-formed onsets for English (e.g. Kiparsky 1979) and the same seems to be true for Bulgarian and Hungarian as well, along with other languages, for that matter. Generally said, sonority theory lends itself rather well to the stating of certain phonological generalizations in the languages in question, despite the fact that it is far from being universally accepted. However, if we follow Harris's assumption that the restrictions, underlying sonority effects are universally imposed (Harris 1994: 57–58), then in case of onset clusters in English, Bulgarian and Hungarian which contradict the *SSG*, it has to be shown that they are not just onsets, but represent other constituent configurations.

Influenced by the argument of Selkirk (1982), Durand proposes a tentative template for English, which gives a maximal projection of the syllable structure (Durand 1990: 209):

(2)



In the present work I adopt (2) as an optimal model which is to be employed for the description of Bulgarian and Hungarian syllables, consisting of an *onset* (which may branch) and a *rhyme*, having two units (both of which may branch) – a *nucleus* (N), the only obligatory element, the vocalic (sonority) peak and a *coda*. The counting/numeric indication begins from the sonoric peak (the N1) outwards, therefore the *onset/coda*, which is closer to the N, will be included as O1/Co1.

3. STRUCTURE OF THE ONSET: INITIAL MARGINS

In almost any work on the syllable in English, and during the past couple of decades, on Hungarian syllables as well, the presentation is done in a *structuralist* way, giving a branching tree with nodes, corresponding to particular syllable constituents (O, N, Co). To my best knowledge, however, such presentation has not

1994), *Sonority Sequence Generalization* (Kiparsky 1979), or sonority theory, which are all based on Jesprsen's sonority hierarchy.

yet been elaborately advanced for Bulgarian. As mentioned above, the model used for comparison of the onset structure of the three languages in question, is the one proposed for English (cf. (2)), having a maximal projection of a two-slot onset (and also a two-slot coda). From the illustration in (2) it is clear that, although the phonotactics of Bulgarian[4], for instance, allows for initial clusters of more than two consonants (e.g. *cmp*ax [*str*ax] 'fear' *ѕстр*ани [*fsrt*ani] 'aside' etc), the structure contains only two positions for consonants in the onset. Such a restriction poses a serious challenge to languages like Bulgarian, where it is possible to have a well-formed word-initial consonantal cluster up to four consonants (see above).

The present investigation focuses primarily on onset structure, the examining of the syllable structure is an object of a larger work. It should be pointed out that here I compare the non-linear presentation of the segments, involved in syllable structure, it is not the aim to deal exhaustively with the phonotactics of the languages in question. First the English and Hungarian existing consonantal combinations are outlined, then I turn to Bulgarian. Word-initial pre-vocalic combinations are taken into account.

3.1. ENGLISH

According to the traditional specification of the possible constituents in the English syllables, cited by Harris (1994: 53), the onset "... can contain between zero and three positions, illustrated in word-initial portions of, < eye, pie, pry, spry >..."[5]. The three member consonantal clusters, as the fullest structure, contain:

(3) /s/ + /p t k/ + /r l w j/

The order of consonants in those English onsets, which seem to allow for three positions is absolutely fixed. We do not get clusters with any other order, only *fricative* + *plosive* + *resonant*[6]. In other words, each of the elements in the cluster occupies a certain position which it cannot change, and which is different

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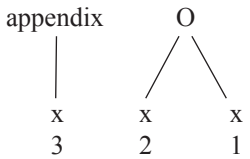
[4] Also: Hungarian: e.g. *sztr*áda [strada] 'motorway' etc; English: e.g. *str*ange, *scr*eam etc.

[5] I have completed an exhaustive examination of the existing consonantal combinations word-initially for English, Bulgarian and Hungarian (based on the relevant grammars for the three languages in question, cf. References). Due to lack of space, I do not elaborate on the combinations found, I present only the results. Instead, I indicate the types of clusters, which are not permissible. For English they are:
1) no */sb-, sd-, sg-/
2) no */pw-, bw-, fw-/ or */tl-, dl-, θl-, /
3) no */sr-/
4) no plosive + nasal
5) no C/j/ if the following vowel is other than /u/.

[6] This particular ordering of the elements fails to conform to the *SSG* (c.f. previous page).

from the other positions. Following the logic of (2), counting from the vocalic nucleus, *position 1* is occupied by the resonants /r l w j/. These are preceded by the plosives /p t k/ in the middle *position 2*, preceded in turn by the sibilant /s/[7] in the outermost position, included *under 3*. The generalization that core syllables contain two positions of increasing sonority can be maintained by simply treating the occurrences of /s/ in *position 3* as appendices (as suggested by many: Harris 1994; Giegerich 1992; Durand 1990, etc). This reduces the positions in O to two, which is in compliance with (2) and leaves us with the following presentation:

(4)



where *positions 3, 2* and *1* can be occupied respectively by the following Sets:
Set 1: resonats /r l w/
Set 2: plosives and fricatives[8] /p t k b d g f θ/ and nasals /m n/
Set 3: sibilants /s š/,
and Set 1= O1, Set 2 = O2, Set 3 = onset appendix.

There exist a number of language-specific constraints and filters, which restrict the distribution of the consonants, belonging to different sets. As we know, they vary from language to language and it is not the aim here to describe them for English, Bulgarian and Hungarian. What is of our current interest is 1) the excess of consonants in the onset and, 2) the violation of *SSG,* and how it is possible to account for that by applying the non-linear model in (2).

3.2. HUNGARIAN

As in English, the Hungarian onset can contain from zero to three consonants e.g. *és* 'and', *rés* 'crack', *prés* 'press', *szprés* (Siptár 1997)[9]. Looking at the three-member clusters, we see that the first consonant (in our counting – the consonant

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[7] There are a few exceptions where /š/ may occur in some loan words, mainly of Yiddish origin, e.g. *strum* [štrum]

[8] Affricates do not occur in branching onsets.

[9] These are the consonantal clusters, not permissible for Hungarian at initial margins (i.e. word-initially):
1) There are no */tl-, dl-/, */pv-, bv-, fv-/, */sr-, zr-/, */dv-/;
2) No **plosive* + *nasal*;
3) Affricates do not appear in branching onsets;
4) /z ž ts tš ty gy ny j h/ do not take part in word-initial clusters.

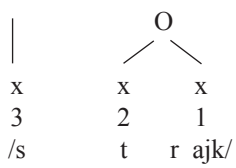
in the outermost, *third position*) can be only /s/ or /š/, the second consonant (*position 2*) – only /p t k/, and the third (*position 1*) – only /r l/ (as in Siptár 1997: 25):

(5)

if	#	C	C	C
		↓	↓	↓
then:		š	p	r
		s	t	l[10]
			k	

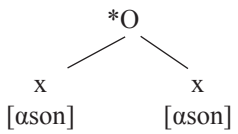
Here again we are facing the same contradiction (taking into consideration model (2)) – one element exceeding the two-slot maximal projection of the onset. The 'offending' element, occupying *position 3* is not a random consonant (cf. (5)) and it allows to be treated in the same manner as the excess O consonant in English, that is, an additional node is posed which is not part of the onset. Thus we account for the *SSG* violation as well:

(6)



The phonotactic regulations behind the consonantal distributions in prevocalic consonant clusters for Hungarian are quite strict, for binary clusters as well. According to the traditional descriptive phonology, syllables beginning with more than one consonant are exceptional, 'non-Hungarian': "... A Hungarian syllable cannot start with more than one consonant" (Siptár 1999: 360). This assumption is motivated by the idea that they occur only in loan words. However, some other works (Kiss, Kiefer and Siptár 1999; Kassai 1998; Kiefer 2003) claim that such an argument cannot be valid, because the simple fact that a word is from a foreign origin does not mean it is exceptional. There are 'genuine' Hungarian words which can be classified as exceptional as well. One general characteristics is that if we have a branching onset, consonants cannot be too similar, e.g.:

(7)



[10] Marginal use of /l/ in some loan words, e.g. *szklerózis.*[skl-] 'sclerosis'.

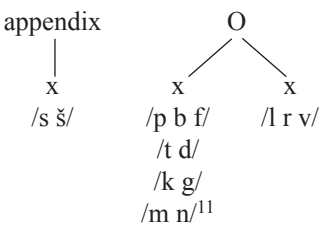
3.2.1. Sets and onset

The three prevocalic *positions* in the syllable (*3+2+1*) are realized by the following sets:

(8) Set 1 = resonants /r l v/
Set 2 = plosives and fricatives /p t k b d g f/ and nasals /m n/
Set 3 = sibilants /s š/,
where Set 1 = O1
Set 2 = O2
Set 3 = O3

This can be illustrated in:

(9)



Although phonologists do not always approach this matter from the same perspective, and there are some discussions as to what is the precise status of the word-initial element /s/ or /š/, it is now usual to give description of the Hungarian syllable, employing the non-linear syllable pattern (2) (Kassai 1998; Siptár 1999).

3.3. BULGARIAN

The wide variety if initial clusters in Bulgarian presents a difficult starting point for grouping the consonants into sets, following the approach applied to English and Hungarian. Moreover, the fact that in Bulgarian there are four consonants in prevocalic position makes it quite improbable that they could be 'squeezed' into the structure in (2). This work attempts to give a reasonable explanation that, in fact, the description of the Bulgarian onset fits quite elegantly in the non-linear pattern.

As mentioned above, the maximal initial cluster in Bulgarian consists of 4 consonants, e.g. встра.ни [fstrani] 'aside', which includes types of the prefixes v- and s- (Boyadzhiev, Kutsarov and Penchev 1998). The accummulation of four consonants can be explained with the fact that the consonants in the outermost position used to be a separate word, a preposition, which had gradually become

[11] In a non-branching onset also: /z ž ts tš ty gy ny j h/.

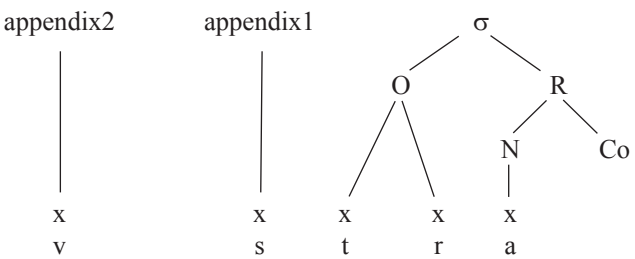
attached to the word and had turned into a prefix. The organization of consonants into fixed sets is challenged by some fricative + fricative binary clusters, which occur in Bulgarian, and we have difficulties in including them in the onset model further below: /fx zv sv sf sx žv šv xv/. It is possible to divide them into two groups: 1.) /s f/ + /x/, and 2.) /s z š ž/ + /v/ (or in one case, its allophone [f]). /x/ allows to be included under *position 2*. The question of /v/ cannot be solved in such a straightforward way, since its position within initial clusters seems to change quite easily: /v/ can participate as the first member in the initial cluster not only in polymorphemic words as a prefix, but in monomorphemic words as well: [vrata] 'door', [vlak] 'train', [vseki] 'every'. It is the only consonant that clusters with affricates: e.g. [tsvete] 'flower'. The ability of /v/ to participate in initial clusters in monomorphemic words motivates us to consider it for the analysis of the onset. Its appearance as the second member (e.g. tvɐ̀rd 'hard', svoj 'our') suggests that it behaves like sonorants, that is, it should be included under *position 1*. This assumption is confronted by the fact that /v/ can be the first member in clusters, such as: /vs vr vk vl/. However, the occurrence of /v/ is largely as the first member of a cluster and only in the case of /s z š ž/ + /v/ – as a second. In order to account for the marginal occurrence of /v/, which not only exceeds the two-slot limit of the onset structure, but also, and more important, violates the *SSG*, we have included it under *position 4*. Provided Bulgarian allows for: a) four consonant in initial clusters and; b) not only /s/ may occur in *position 3* (= onset appendix), we present the following patterning:

(10)

4	3	2	1
/v f/	/s/	O2	O1
	/z/	/g k/	/l r v/
	/ž š/	/b p/	
		/d t/	
		/m n/	

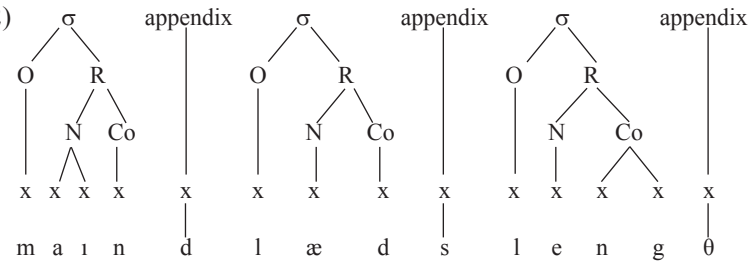
In view of (2), the initial syllable of the word *vstrani* will have structure as in:

(11)



It is necessary to explain why we consider /v-/ (and [f] which is only an allophone of /v/) as a second appendix position. /v/ can be a single morpheme, meaning ‘in, into’ and it is clearly a prefix (Boyadzhiev, Kutsarov and Penchev 1998). We follow the logic of the presentation of -s, -th as coda appendices in English whenever SSG is violated or when the maximal allowed positions within the coda are exceeded, or even both (Giegerich 1992: 148; and also in optimal analysis Smith and Moreton 2011: 167–194):

(12)



The same model may be applied for accounting for the violation of the *SSG* in the onset and for the failure to conform to the optimal syllable pattern (2). Consider the following Bulgarian examples[12]:

(13) Table 1

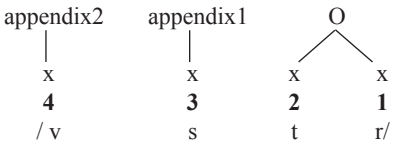
two x exceeded	SSG violated	both	offending element
vgledam			v
fkratse	fkorenjavam		f
		sxvana	s
		zdrave	z
		štrakam	š

The class of consonants that can precede the optimal syllable can be defined in terms of distinctive feature composition: [+cont] [-son] → **3** and /v/ → **4** (cf. fig. 10). It is clear that this restriction is radically different from the constraints that hold within the optimal syllable: there, we have the *SSG*, while in appendices it does not operate. It is justified, therefore, to maintain the constraints regarding the optimal syllable.

On the basis of the above discussion, we argue for structure of the Bulgarian onset as in

[12] From Bulgarian: *вгледам* ‘look into’, *вкратце* ‘in short’, *вкоренявам* ‘enroot’, *схвана* ‘grasp’, *здраве* ‘health’, *щракам* ‘snap’.

(14)



where positions 1 and 2 are within the onset, positions 3 and 4 are appendices.

3.3.1. Sets and onset

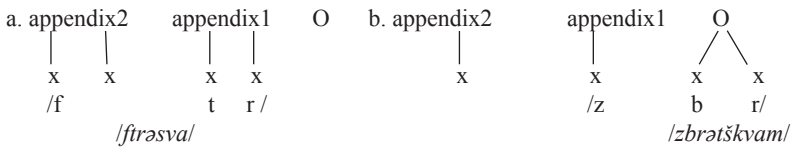
The analysis of the consonants allows us to establish the following sets of consonants that realize onset placeholders:

Set 1: resonants /r l v/ (1)
Set 2: plosives /g k t d b p/, nasals /m n/ and /f/ (2)
Set 3: sibilants /z s ž š/ (3)
Set 4: /v/ – separate morpheme (4)

The grouping into sets also corresponds to the order of the numerical symbols employed in order to present more clearly the organization of the consonants within the initial clusters. It should be noticed that there is functional difference between the /v/ in Set 2 and /v/ in Set 4. /v/ has to occupy position 4 (appendix2) in all cases except when it is not a prefix, but belongs to the stem of the word:

(15)
Set 1 = O1 (O2)
Set 2 = O2
Set 3 = appendix1
Set 4 = appendix2

(16)



Considering the presentation of the Bulgarian onset, we arrive at the conclusion that despite that the Bulgarian language, as a member of South-Slavic language family, has a low number of distributional restrictions of consonants within the syllable, the Bulgarian onset allows to be defined according to a syllable template, where its consonantal configuration fits into the model developed for English.

4. CONCLUSION

With the registration of the existing consonantal combinations, four positions are established, each of them being realized by members of initial clusters in English, Bulgarian and Hungarian. The counting from 1 to 4 starts from the sonoric peak in the syllable. It is indicated that position 1 and position 2 correspond to the two-slot limit in the structure of the onset. Positions 3 and 4 are appendices which are introduced to account for the excess of consonants in the onset and the violation of the *SSG*. Each position corresponds to a certain set of consonants, i.e. the consonants have preferences for a give position and their occurrence somewhere else within the structure is highly restricted. We have presented the sets for the three languages in question above. To visualize the parallel between them, here is the following table:

Table 2

	Appendix 1	Appendix 2	O1	02
positions	4	3	2	1
consonantal sets	Set 4	Set 3	Set 2	Set 1
English	Ø	s š	p t k b d g θ m n	l r w
Bulgarian	v f	s š z ž	p t k b d g m n x !f	l r v
Hungarian	Ø	s š	p t k b d g m n	l r v

Table 2 reveals a striking similarity in the organizing of the consonants. It expresses the idea that clusters like */lt-, rs-, bs-/, for example, are impossible in the three languages. *Position 1*, occupied by consonants from Set 1 can be preceded, but not followed by other consonants. *Position 2* = Set 2 can be both preceded and followed by other consonants. Positions 3 and 4 are appendices. For their behavior we have to pose language-specific restrictions. For English and Hungarian:

(17) appendix
x
[+cont]
[+sib]
[-voiced]

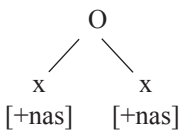
That is, it is occupied by one element which can only be /s/ or /š/. For Bulgarian we have a larger group of sibilants, the voiced pairs of /s/ and /š/ are also present:

(18) appendix 1

x
[+cont]
[+sib]
[+/-voiced]

Such grouping is slightly challenging, there remain some consonantal combinations which cannot be expressed by it, for example the Bulgarian *mnogo* 'many':

(19)

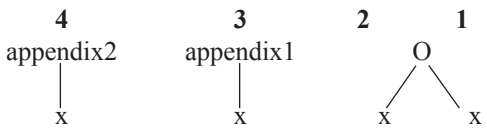


It is necessary to mention that at this stage we only include the consonants which can take part in pre-vocalic clusters. Those which cannot are not considered here because of space limitation. However, the sets are open to be completed by the other members of the consonantal systems of the three languages

The presence of /v/ in the initial clusters of Bulgarian words causes the main differences observed in the onset structure of the three languages. It strikes us that it is necessary to introduce a fourth position for Bulgarian in order to account not only for the 4 consonant cluster, but also for all other clusters, where /v/ violates the *SSG*. The occurrence of /v/ in two different positions is noticeable – *position 1* and *position 4*. /v/ is found in position 1 in several cases: when it is preceded by a) a sibilant; b) a stop; c) affricate (in one of the cases); and by d) /x/.

Following the logic of the non-linear presentation of the syllable and its onset, we introduced a configuration of the Bulgarian onset, where we identified the 2 positions and gave an explanation about the 2 more exceeding segments, without contradicting the syllable structure outlined in (2). Despite the differences between the phonological systems of the compared languages, it can be concluded that there is a common model of the onset structure that is valid for the three languages. Here is the structure of the onset, which can be applied for both English Bulgarian and Hungarian initial clusters:

(20)



The organizing of onset consonants in sets comes to show that regardless of the specifities of the phonotactics and phonological systems in English, Bulgarian and Hungarian, we can actually see quite an impressive parallel between them. Certainly, we are far from the idea that these sets cannot undergo any change, they are not exhaustive. The consonantal inventory of the languages does have preferences to a given position, which corresponds to a certain set of consonants, and their occurrence somewhere else within the structure is highly restricted. This once again shows certain universality that undoubtedly has to be attributed to the constructing and structure of the onset, and, respectfully, of the syllable.

BIBLIOGRAPHY

Basbøl 1990: Basbøl, H. Phonological theory. – In: *Linguistics: The Cambridge Survey. Vol. 1. Linguistic Theory: Foundations*. Cambridge: Cambridge University Press, 1990, 192–215.

Boyadzhiev, Kutsarov and Penchev 1998: Бояджиев, Т., И. Куцаров и Й. Пенчев. *Съвременен български език*. София: Петър Берон, 1998.

Clark and Yallop 1995: Clark, J. and C. Yallop. *An Introduction to Phonetics and Phonology*. Oxford: Blackwell, 1995.

Cser 2013: Cser, A. Segmental identity and the issue of complex segments. – In: *Acta Linguistica Hungarica*, 60/3, 2013, 247–264.

Durand 1990: Durand, J. *Generative and Non-linear Phonolo*gy. London: Longman, 1990.

Durand and Siptár 1997: Durand, J. and P. Siptár. *Bevezetés a fonológiába*. Budapest: Orisis, 1997.

Giegerich 1992: Giegerich, H. J. *English Phonology. An Introduction*. Cambridge: Cambridge University Press, 1992.

Harris 1994: Harris, J. *English Sound Structure.* Oxford: Blackwell, 1994.

Kassai 1998: Kassai, I. *Fonetika*. Budapest: Nemzeti kiadó, 1998.

Kenstowitz 1994: Kenstowitz, M. *Phonology in Generative Grammar*. Oxford: Blackwell, 1994.

Kiefer 2003: Kiefer, F. (ed.). *A magyar nyelv kézikönyve.* Budapest: Akademiai kiadó, 2003.

Kiparsky 1979: Kiparsky, P. Metrical structure assignment is cyclic. – *Linguistic Inquiry*, 10/ 1979, 421–441.

Kiss, Kiefer and Siptár 1999: Kiss, K., F. Kiefer and P. Siptár. *Új magyar nyelvtan*. Budapest: Orisis, 1999.

Nhatt, Ndayiragije and Nikiema 2008: Nhatt, P., J. Ndayiragije and E. Nikiema. Are branching syllabic constituents really necessary?. – http://www.cunyphonologyforum.net/syllconf.php, 2008.

Selkirk 1982: Selkirk, E. The Syllable. – In: Van der Hulst, H., N. Smith (eds). *The Structure of Phonological Representations, Part II*. Dordrecht: Forris, 1982, 337–383.

Siptár 1999: Siptár, P. Hangtan. – In: Kiss, K. É., F. Kiefer, P. Siptár. *Új magyar nyelvtan*. Budapest: Orisis, 1999, 293–390.

Smith and Moreton 2011: Smith, J. L. and E. Moreton. Sonority variation in Stochastic Optimality Theory: Implications of markedness hierarchies. – In: S.Parker (ed.). *The Sonority Controversy*. Berlin: De Gruyter Mouton, 2011, 167–194.

Törkenczy 1994: Törkenczy, M. A szótag. – In: Kiefer, F. (ed.). *Strukturális magyar nylvtan, 2. Folnológia*. Budapest: Akademiai kiadó, 1994.

Trask 1996: Trask, R. L. *A Dictionary of Phonetics and Phonology*. London and New York: Routledge, 1996.
Velcheva 1992: Velcheva, B. Language interference and universal constraints (nasalization and denasalization in bulgarian and greek). – In: *Linguistique Balkanique*, XXXV, 3–4, 1992, 115–118.

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