ROCZNIKI HUMANISTYCZNE
Tom LXIII, zeszyt 11 – 2015
DOI: http://dx.doi.org/10.18290/rh.2015.63.11-8

EWA WOJCIECHOWSKA

VOICING OF OBSTRUENTS IN OLD POLISH: AN ANALYSIS OF COMPENSATORY LENGTHENING

A b s t r a c t. In this paper it is suggested that in the ancestral stages of the system, Polish obstruents were characterized by the presence of an H element responsible for voicelessness instead of an L element, interpreted phonetically as full voicing, postulated for Present-day Polish and other Slavic systems. This claim is made on the basis of a CVCV analysis of Compensatory Lengthening—a process which affected the majority of the Slavic world in the period when particular Slavic languages were evolving from Common Slavic.

Key words: voicing, elements, Compensatory Lengthening, CVCV phonology, Licensing, phonological representation, vowel length.

1. INTRODUCTION

The objective of this article is to analyse the process of Old Polish compensatory lengthening (CL) in order to suggest an alternative interpretation of the voicing of obstruents in Polish. Present-day Polish has almost unanimously been treated as an L-language, i.e. a system in which voicing, not aspiration, is active. The analysis of CL which is presented below advocates the point of view that Polish in its infancy (i.e. the time it had just begun to evolve from Common Slavic) may have been an H-language. This, in turn, may cast new light on the treatment of Slavic languages as a group.

The article is structured as follows: sections 2 and 3 focus on the nature of voicing cross-linguistically. In section 4 Polish Compensatory Lengthening is described and then the existing interpretations of the phenomenon based on voicing are provided in section 5. In section 6 basic mechanisms

EWA WOJCIECHOWSKA, MA—Institute of English Studies, John Paul II Catholic University of Lublin; address fo correspondence: Al. Racławickie 14, 20-950 Lublin; e-mail: ewapjk@ gmail.com

and assumptions of standard CVCV are explained. A new interpretation of CL is given in section 7.

2. WAYS OF REPRESENTING VOICING CROSS-LINGUISTICALLY: L- VS. H-LANGUAGES

In privative models of representing the voicing / aspiration (voicelessness), or any other phonological characteristics, no segment can be ascribed a 'minus' feature. What it means is that e.g. /p/ cannot be defined as [- voiced] in any human system. In other words, mental images of sounds are built of the detectable components, and not defined through the negative (absent) features (Schane 1984a, Avery 1996).

One privative model employed to discuss the internal make-up of sounds is the Element Theory (Harris 1994, Kaye Lowenstamm and Vergnaud 1990). All sounds in a given language consist of sets of elements, each corresponding to a particular articulatory gesture. The exact make-up is both universal and language specific. What is meant by that is that while some properties are shared by all systems, i.e. in all languages is stopness represented by the |ʔ| element, other feature (voicing/aspiration) are dependent on a language.

There are two basic types of languages in terms of defining voicing by elements: H-languages and L-languages (Honeybone 2005, Harris 2009). An |H| language does not endow a voiced obstruent with any element, while phonologically voiceless segments are given the |H| element, which articulatorily is expressed as aspiration. Almost all Germanic languages (including English) belong to this group. Therefore, /p/ consists of more elements than /b/ in English, since these two segments differ only in their voicing specification. They share all other elements (i.e. responsible for the place and manner of articulation). Polish and all the other Slavic languages are deemed L-languages, i.e. obstruents in these systems consist of more elements if voiced than if voiceless, because |L| – the element responsible for full phonological voicing (articulatorily for the action of the vocal folds) – is present in /b/ while no element corresponding to voicelessness is observed in /p/. For both phonetic and phonological basis for making such distinction see e.g. Harris 2009, Cyran 2011.

3. ACTIVE VS. SPONTANEOUS VOICING

In the section above it was repeated several times that elements |H| and |L| are responsible for voicing / aspiration in obstruents in particular languages. Sonorants have not been mentioned. This is because the nature of voicing in the case of sonorants is different than in obstruents. In L-languages voicing is active in obstruents, i.e. its presence distinguishes one segment, which is voiced, from the other, which is not (e.g. /b/ from /p/). Sonorants are characterized by spontaneous voicing, which has no phonological function. It does not distinguish one segment from another, since sonorants are inherently voiced with no voiceless counterparts. Therefore no element |L| is present in the make-up of sonorant. It would not be phonologically sanctioned. For more discussion of active vs. spontaneous voicing see Cyran 2011, Iverson and Ahn 2007).

Present-day Polish is an L-language, in which voiced obstruents contain the |L| element, while voiceless obstruents and sonorants have neither |L| nor |H|. This observation is going to be significant when Polish Compensatory Lengthening is discussed in section 7.

Having presented two ways of defining voicing distinction universally in terms of elements and placed Polish in the |L| group, let us first introduce Old Polish Compensatory Lengthening and then summarize the existing interpretations of the phenomenon based on voicing.

4. THE PROCESS OF COMPENSATORY LENGTHENING: A BRIEF OVERVIEW

Although Present-day Polish has no phonological vowel length, it is generally agreed upon that until the loss of quantity in the 15th century, the duration of vowels had a distinctive function (Stieber 1973, Klemensiewicz *et al*. 1965, Shevelov 1964). Vowel length underwent several changes in the course of the history of Polish, one of them being Compensatory Lengthening (CL in what follows).

The process of CL affected Polish (and the majority of Slavic world) in c. 11th century, spreading from the centre of the area to the peripherals. The process consisted in the lengthening of a stressed vowel at the expense of the loss of the final (unstressed) vowel in the following syllable.[1] Schematically the process is shown in (1):

[1] These final extra-short unstressed vowels were present in all Slavic world and called yers. Their history, description and function are well-documented in the literature (Dunaj 1966, Shevelov 1964, Stieber 1973).

(1) $C_1VC_2ь \rightarrow C_1V{:}C_2$

Due to the absence of long vowels in Pd Polish it is impossible to provide straightforward examples of the phenomenon, but the spelling <ó>, present in Polish nowadays, in the majority of cases derived from the previous length of <o>, subsequently raised to what is pronounced as /u/.[2] Therefore, the pattern in (1) above can be exemplified by (2):

(2) bobь → bób ‘broad bean’ (Old Polish → Present-day Polish)

What is significant about the process in (1) is that the lengthening of the vowel could take place iff the C_2 was voiced. Whenever it was voiceless, the process was blocked. Interestingly, this restriction is specific to Polish – each Slavic dialect permitted the lengthening in front of a specific choice of consonants; e.g. in Ukrainian all consonants allowed for the process, in Czech sonorants and voiced fricatives allowed for it, but neither voiceless segments nor voiced plosives did, while in Serbian the lengthening was blocked by all obstruents irrespectively of their voicing value.

(3) compares Present-day Polish items with <ó>, which are the remnants of long /o/, and plain /o/, which were never lengthened. All the words originate from Common Slavic, i.e. entered the lexicon prior to CL:

(3)	/ь/-final in Old Polish	full V-final in Old Polish	
a)	pokój	pokoju	‘room’ (nom.sg/gen.sg)
	/poku**j**/	/poko**j**u/	
	stodół	stodoła	‘barn’ (gen.pl/nom.sg)
	/stodu**w**/	/stodo**w**a/	
	mól	mole	‘moth’ (nom.sg/nom.pl)
	/mu**l**/	/mo**l**e/	
	pór	pora	‘season’ (gen.pl/nom.sg)
	/pu**r**/	/po**r**a/	
	mórz	morze	‘sea’ (gen.pl/nom.sg)
	/mu**ʃ**/	/mo**ʒ**e/[3]	
	krów	krowa	‘cow’ (gen.pl/nom.sg)
	/kru**f**/	/kro**v**a/	
	bób	bobu	‘broad bean’ (nom.sg/gen.sg)
	/bu**p**/	/bo**b**u/	

[2] Shortening of long vowels in Polish was accompanied by raising. The presence of raised vowels in the system nowadays is an indicative of the existence of length in the earlier stages.

[3] There is devoicing of the final obstruents in Present-day Polish.

	dróg	droga	‘road’ (gen.pl/nom.sg)
	/dru**k**/	/dro**g**a/	
	wóz	wozu	‘cart’ (nom.sg/gen.sg)
	/wu**s**/	/wo**z**u/	
	bród	broda	‘beard’ (gen.pl/nom.sg)
	/bru**t**/	/bro**d**a/	
b)	srok	sroka	‘magpie’ (gen.pl/nom.sg)
	/sro**k**/	/sro**k**a/	
	stos	stosu	‘heap’ (nom.sg./gen.sg)
	/sto**s**/	/sto**s**u/	
	noc	nocy	‘night’ (nom.sg./gen.sg)
	/no**ts**/	/no**ts**y/	
	snop	snopa	‘sheaf’ (nom.sg./gen.sg)
	/sno**p**/	/sno**p**a/	

All the words in (3) are nominatives paired with oblique cases. Yers (extra-short vowels whose disappearance was responsible for the lengthening in the preceding syllables) used to be case markers in Old Polish. In the column on the left, word-final consonants were followed by yers. In the column on the right full vowels terminating the words never disappeared, hence no traces of lengthening are observed. (3a) exemplify the lengthening, while (3b) do not. In (3a) final consonants in bold are both obstruents and sonorants. The nature of voicing is, as discussed in section 3 above, different in these groups of sounds—both types of voicing (active and spontaneous), phonologically disparate, allowed for the lengthening of the preceding vowel, which is crucial for any phonological explanation.

(3b) only gives a sample of representative examples of how voicelessness blocked CL. The reason why *noc* is not **nóc* in Present-day Polish is the voiceless nature of <c> (/ts/), whose voicelessness (or lack of voicing) prevented the lengthening. It needs to be mentioned that in Polish there is a handful of words of the *stopa – stóp* (‘foot,’ nom.sg/gen.pl) type, where the /o/ - /u/ alternation seems to take place in the voiceless context. These cases have posed a serious problem for the researchers (Gussmann 1980, Konecczna 1965). We disregard them for the time being since the overwhelming majority of Polish lexicon complies to the rule: no /o/ raising in front of voiceless objects. Historically this is interpreted as regular prohibition of lengthening in the voiceless context.

For more details concerning Polish CL see: Baudouin de Courtenay (1870, 1984), Bethin (1980), Carlton (1991), Dunaj (1966), Furdal (1964),

Koneczna (1965), Shevelov (1964), Łoś (1927), Nitsch (1911), Stieber (1966, 1973), Szober (1931), Timberlake (1931 a, b), Topolińska (1968), among others.

5. EXISTING INTERPRETATIONS OF CL BASED ON THE VOICING VALUE

The Compensatory Lengthening under discussion has enjoyed numerous interpretations within various theoretical frameworks. Below we concentrate on the ones which ascribed a special role to the voicing value of C_2, treated either in articulatory or phonological terms.

5.1. ARTICULATORY EXPLANATIONS

According to Szober (1931), the prerequisite for CL to take place was of course the loss of a final yer, but the additional condition was voicing of the consonant, whose importance is discussed in purely articulatory terms. After the final yer was delinked, the full voicing of consonants could not be sustained, therefore vocal cord vibration, delinking itself from the consonant, joined the preceding vowel. As a result the vowel was lengthened and the consonant became fully devoiced.

According to Koneczna (1965), CL satiated the optimal length of words prerequisite. The process was a case of 'articulatory compensation,' which meant that the loss of one vowel in a word resulted in the lengthening of another vowel in order for this word to retain its original length. The length of a vowel always depends on the following consonant – in front of voiced consonants vowels are considerably longer than in front of voiceless ones. The author claims that the disappearing yer could only add its length to a vowel that was already contextually lengthened by a consonant. Lengthening in front of voiceless consonants did take place (the author of the proposal does mention *laas*, *potook*[4]), but it was so minimal that it did not lead to 'full length' in Old Polish (Koneczna 1965, 87), and so could not be re-interpreted as phonologically long.

Both explanations mentioned above disregard the phonological nature of CL. What is more, they can be applied to Polish and Polish only, in which the

[4] On the other hand, elsewhere in the sources it is argued that Old Polish spelling in general confirms the lack of lengthening in front of voiceless consonants (Dunaj 1966, 31)

voicing nature of the intervening consonant was the only variable correlating with the presence of absence of lengthening. The process in other languages, like Czech or Serbian, could not be explained in the same fashion.

5.2. A SYLLABLE-BASED ANALYSIS (BETHIN 1998)

Since Compensatory Lengthening was a consequence of an interaction between two consecutive vowels in a word, it has been frequently analysed in prosodic terms, i.e. employing such notions as syllable or mora.

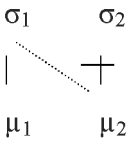
Each syllable is made up of other prosodic units called moras, which represent syllable timing and weight. According to McCawley (1977, 265), the only plausible definition of mora is: something of which a long (heavy) syllable consists of two and a short (light) syllable of one. A short (or light) syllable is therefore monomoraic, a long (or heavy) is bimoraic. Syllable nuclei (usually identified with vowels) are always moraic or bimoraic (short and long vowels respectively), onsets are never moraic and codas are either moraic or add no weight to the overall weight of a syllable. Whether they are moraic or not depends on:

i) parametric setting in a particular system
ii) their melodic nature (the more sonorous a segment the more likely it will be attached to a mora.

For more details concerning moras and the classification of languages according to the weight of syllables consult e.g. Hyman (1985) and Morén (2003).

According to Bethin (1998), who analyses the lengthening as a Slavic phenomenon and does not limit herself to the instance of Polish, the process was a consequence of a syllable reanalysis of Late Common Slavic that took place prior to the fall of yers (i.e. their weakening and then disappearance) and was independent of it. It took place in a bisyllabic domain and graphically may be expressed as dissociation and re-association on the moraic tier (σ stands for a syllable, μ - for a mora):

(4)



In (4) the dissociation of the second mora (μ_2) from the syllable σ_2 results in its re-association to σ_1 – as a result the first syllable lengthens (one mora corresponds to one timing unit, two moras – to two units). In Slavic languages, Pol-

ish including, there were no long consonants, so the only segment on which the syllable lengthening could be projected was the vowel. According to Bethin (1998, 99), the moraic analysis does not require the final yer to be lost before the re-association (lengthening); it is sufficient for it to be weakened.

As for the role of the intervening consonant in particular languages, Bethin (1998, 103) implies that it might be a consequence of their mora-bearing potential (and the parametric differences among languages). The more sonorous the consonant, the more likely it is that cross-linguistically it will be able to bear a mora. The disappearing yer transmitted its weight to the nearest vowel thus making it long, but this transfer was blocked by certain groups of consonants – in Polish, by all phonologically voiceless obstruents. All phonologically voiced obstruents and sonorants were mora-bearing units and could help post-yer-moras reach their vocalic targets.

It is not clear, though, how the 'mora-bearing-potential' of voiced consonants in Polish was different from the same potential in the case of vowels. The author does not make it clear why the consonants endowed with the power of bearing syllable weight were, at the same time, unable to keep it permanently and, instead, transmitted the weight to the preceding vowel.

Having presented a sample of existing proposals, let us move on to the discussion of CL within the CVCV framework, employing also the notion of abovementioned elements.

6. CVCV – BASIC CONCEPTS

6.1. LICENSING, GOVERNMENT AND VOCALIC LENGTH IN CVCV

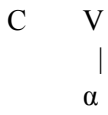
In the present section let us introduce the concept of length in the framework of CVCV, as well as the basic mechanisms employed by the theory: Licensing and Government.

CVCV, developed by e.g. (Lowenstamm 1996, Scheer 2004, Cyran 2010) is a theory of phonological representation in which all words, on their skeletal level, consist of Cs and Vs endlessly alternating with one another. There are no consonantal clusters at the phonological level, even if they are there phonetically on the surface. There is always a vowel in between the successive Cs, regardless of the melodic nature of the cluster members. The same is assumed with regard to long vowels and diphthongs – there is always a consonantal slot between two V slots. The representations of (two types of)

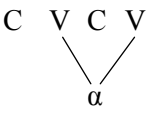
clusters, geminates, long vowels and diphthongs, as well as singletons (vocalic and consonantal) are provided in (5). α and β represent any melody. T stands for any obstruents. R stands for any sonorant:

(5)

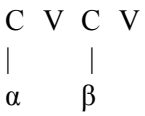
a) a singleton vowel



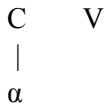
b) a long vowel



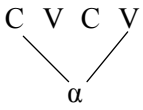
c) a diphthong



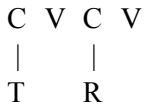
d) a singleton consonant



e) a geminate



f) a cluster of rising sonority



g) a cluster of falling sonority

All representations (mental images of words) are structures graphically shown in (5). In order for the representations to be well-formed, two mechanisms are employed by CVCV: Government and Licensing. The source of both is always a V position, which can be full or empty. Whether any melody must be attached to it in order for the V position to license or govern is a matter of parametric settings for a particular language. Government and Licensing always work from right to left (i.e. from the end of a computational phase towards its beginning—Scheer 2004, 249). Licensing supports the melody attached to an X-slot which is targeted, Government suppresses it. They affect both C and V positions which precede them and the effects of their operation (or inability to operate) are, among others, length of vowels, weakening of consonants and the possibility that vocalic positions remain empty within a representation.

6.2. EMPTY VOWELS AND INTERVOCALIC GOVERNMENT

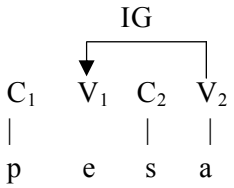
Although there are empty C and V positions in almost every representation (all long vowels contain an empty C position, all clusters encroach an empty V), they must be substantiated – otherwise a representation is ill-formed. While C positions do not have to be justified, an empty V may occur only in three cases (Scheer 2004):

a) when it is word-final (FEN – Final Empty Nucleus);
b) when it is captured between two members of a rising sonority cluster (but only if these consonants do contract a relation, which is by no means obligatory);
c) and when it is subject of Internuclear Government (IG).

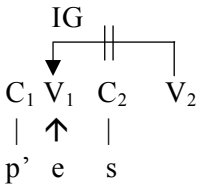
Languages like Italian parametrically do not allow a), therefore all words in this language end with vowels – final nuclei cannot remain empty. Let us disregard b) as having no bearing on the present discussion and introduce the notion of Internuclear Government. This type of Government operates between two successive V positions, one of them being empty. Representations of Polish word 'dog' (6a) gen.sg. and 6b) nom.sg.) demonstrate how the presence and absence of IG affect lexical items:

(6)

a)



b)



In (6) IG is expressed with an arrow.[5] In (6a) V_2 is contentful, i.e. it has melody attached to it. As such, it is able to dispense its Government potential in order to silence V_1. It has been noted above that an empty V position can remain in a representation if it is targeted by a following V position. Otherwise it would have to either vocalize or be removed. The former is the case in (6b). The /e/ melody below V_1 is the so called 'floating /e/,' whose nature is described in numerous sources, e.g. Rubach 1986, Szpyra 1992, Gussmann 2007. Such melody belongs to lexical properties of certain words and is not accessible to all empty Vs in a system.

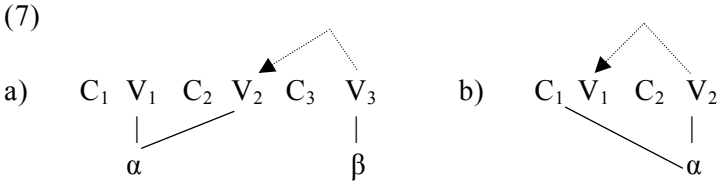
[5] As a full vowel, V_2 is also endowed with Licensing potential. It has been removed from the picture for the sake of clarity.

When V_1 is subjected to IG, it remains silent. (6b) shows a situation, however, in which no Government can be issued by V_2, because this position is empty (no melody attached) and so its lateral potential is limited. V_2 cannot govern V_1, which in turn vocalizes – /e/ attaches itself to the position, whose status in a representation would otherwise be unclear.[6] The presence of melody linked to V_1 in (6b), but not in (6a) (although the melody is lexically accessible) is due to the operation of Internuclear Government.

6.3. LONG VOWELS IS CVCV

Standard CVCV differentiates between two types of long vowels: alternating and non-alternating (Scheer 1998). The two structures vary and are shown in (7) below. Licensing is indicated with dotted arrows:

(7)



(7a) gives the standard representation of an alternating long vowel. The complement of this long vowel is licensed from the outside by (V_3), which in (7a) is contentful, i.e. has melody attached to its skeletal position. An alternating long vowel is head initial in standard CVCV, i. e. its complement (V_2) cannot be licensed by the head (V_1), since lateral relations in the theory work from right to left.

(7b), on the other hand, shows a vowel that is lexical. What it means is that, being recorded in the lexicon, it does not have to rely on the licensor from the outside, it licenses itself (being head-final, i.e. having its more prominent V position following the less prominent one).

Long vowels resulting from CL must fall in the (7a) category, because their nature was context-based – the length was not lexical, it emerged as a result of the phonologically changing environment. Therefore, if a long

[6] The cases with floating /e/ are exceptional in Polish. Where there is no floating melody in an item available for an empty position, obviously it has no chance of vocalizing, but it turns out there is no such necessity in Polish – final empty Vs have governing potential, which is exemplified by words like *wiatr* ('wind') or *żubr* ('bison') – see Pająk (2010, 107).

vowel resulting from CL is given a CVCV representation, it will be in the (7a) shape.

7. POLISH COMPENSATORY LENGTHENING: A CVCV ANALYSIS

7.1. THEORETICAL ASSUMPTIONS

In order to analyse Polish Compensatory Lengthening within CVCV, first we formulate certain assumptions about the framework in (8). They are critical for the interpretation of this particular phenomenon (in this particular linguistic system):

(8)

i. If there is an empty V position in a representation, it calls for Government (in order to substantiate its own existence). The C position between V governor and V governee is not affected, therefore is not melodically weakened (the melody attached is not suppressed).

ii. Government strikes once; when a V position governs, it can affect only one preceding slot (a preceding V if it is empty, a directly preceding C if there is no empty V). This is not the case with Licensing, which can affect multiple preceding positions (both Vs and Cs) until its potential to license is exhausted. This property of Licensing, called Licensing Absorption, was first formulated by Zdziebko (2012) and then employed by Cyran (2014) and Bednarska (2015). The amount of Licensing a position can dispose depends on the melodic content linked to this position as well as the prosodic position (stressed Vs are better licensors than unstressed). The number of preceding positions that can be licensed depends on the melodic content associated with these positions (some melodies are more demanding in terms of Licensing than others).

iii. Licensing is gradable, Government is not (a V position can license strongly, weakly or not at all; a V position either governs or not)

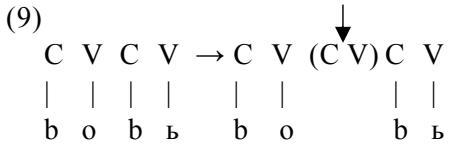
iv. Contentful V positions have ability to both license and govern. Government is dispensed first affecting a given position. Licensing is distributed after Government, striking the second best target (first best target has been affected by Gov.) In other words, no position can be affected by both Government and Licensing.

v. The ability of a V position to govern implies its ability to license, but not the other way round. In other words, a position can license and govern or only license, but no position can only govern.

7.2. THE ANALYSIS

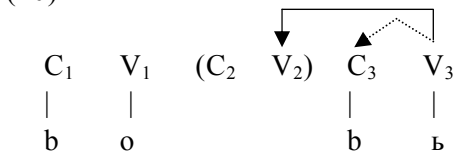
Having formulated the assumptions above, let us analyse Old Polish Compensatory Lengthening. Prior to the operation of the process, the metrical system of Old Polish started undergoing subtle changes in terms of stress and pitch.[7] Such phenomenon was also suggested by Bethin (see section 5.2 above) and referred to as a syllable reanalysis of Late Common Slavic. As a result of the adjustments, an empty CV site might have been inserted in a given representation as a stress marker. Similar proposal was put forward for Old English by Pająk (2010). The insertion is shown in (9):

(9)



The specific reasons for the insertion are going to be disregarded in the present discussion. Most importantly, once an empty V position entered the representation, it immediately called for Government from the following V. It is graphically represented as a solid arrow in (10). Licensing, also distributed by the final V, is a dotted arrow:

(10)



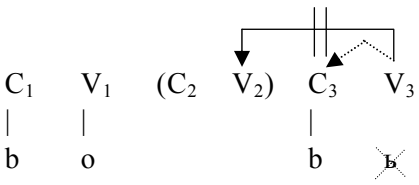
V_3, being contentful, distributes both Government (solid arrow) and Licensing (dotted arrow). Government is distributed first (see the assumptions – 8iv) targeting V_2, which is empty and demands substantiation in a representation (see 8i). Then Licensing is issued towards C_3 – the closest position available and supports the melody (/b/) attached to the position. The potential to license may not be exhausted by the melody of C_3, but the Licensing cannot reach V_2, since this slot has already been stricken with Government (no position can be governed and licensed – see 8iv). V_3 cannot reach further left either, because it would have to 'jump over' the Government directed

[7] The metrical system of Old Polish was extremely complex and extensively discussed. See e.g. Shevelov (1964), Stieber (1973), Bethin (1998).

towards V_2. Such an action is strictly forbidden in CVCV (and in Autosegmental Phonology in General – see e.g. Hammond 1988)

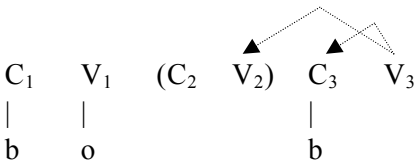
As discussed above, the essence of CL was the lengthening of a stressed short vowel at the expense of the loss (or weakening) of the final yer. Let us assume that it was the loss that caused the phenomenon. The representation in (11) below presents an assumption on how the loss of the yer might have changed the distribution of lateral forces (Gov and Lic) and how the redistribution might have affected the item:

(11)



The order of events presented in (11) is as follows: first V_3 drops its melody (/ь/ crossed out) as a result of the alleged stress alterations in the system. As a consequence, V_3 is too weak to govern the V_2 position. The existence of V_2 in (11) it therefore at risk – either it is sanctioned by a lateral force, or it must be altogether removed. (12) below shows what happens in such cases according to the Licensing Absorption principle (Zdziebko 2012):

(12)

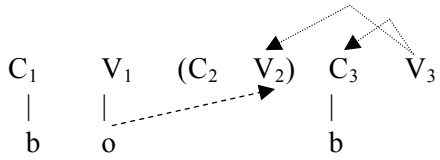


In (12) V_3 is empty and cannot govern. It is not deprived of the ability to license, though, which is predicted by 8v above – a position may be too weak to both license and govern, but may be strong enough to license only (not the other way round). Therefore it still licenses the directly preceding C_3 position. Its licensing potential is not exhausted by C_3, so it reaches further left to the V_2 position (previously abandoned by the Government).[8] Licensed, V_2

[8] The fact that V_3 licenses more positions in (12) than in (10), i.e. when it is empty than when it was contentful, does not mean that its potential to license is greater. That would be counterintuitive and indeed is not supported by any empirical data known to the author. In fact, the potential to

can remain in the representation. What is more, the position has to vocalize in order to stay in the representation (12), as Licensing supports melody (unlike Government, which suppresses it). The closest vocalic melody can be borrowed from V_1. The process is presented in (13):

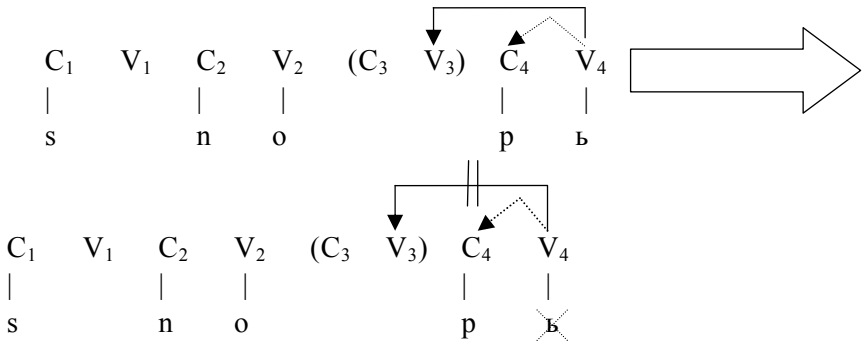
(13)



In (13) V_2, which is licensed by V_3, takes the melody from V_1. As a result, the melody is pronounced over both V_1 and V_2. Phonologically speaking, if melody is shared by two successive V positions, the vowel is understood as long.

The sequence (10) – (13) has presented how the interplay of Licensing and Government issued by a contentful and then empty final V position is responsible for the (compensatory) lengthening in the penultimate syllable. In the sequence below let us examine a case in which no such lengthening takes place despite the loss of melody in V_3. The item chosen for the interpretation is *snop* ('sheaf,' nom.sg):

(14)

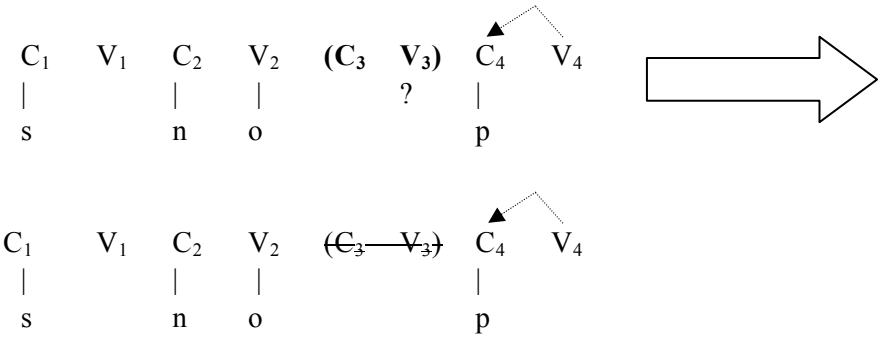


At the stage presented in (14), the CV site denoting stress has already been inserted and both Government and Licensing distributed the same way as in

license is either weaker or unchanged. The only reason V_3 in (12) licenses more than in (10) is that in (10) V_2 was governed and could not be simultaneously affected by any other mechanism.

(10) above. Then the final /ь/ is lost, which results in Government being broken – this stage is no different from (10) above either. Now let us examine what happens to *snop* after Government is removed from the representation:

(15)



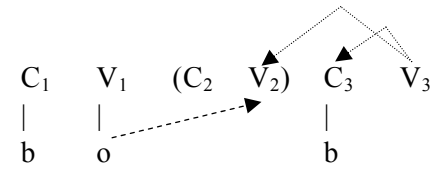
The Government, broken as a result of the final yer deletion, can no longer sanction the existence of the empty V_2. Neither can it be endorsed by the Licensing, which can reach no further than /p/. As a result, the CV site is removed from the representation, the melody of V_1 has no empty slot to spread and no lengthening can take place.

7.3. THE DIFFERENCE BETWEEN *BÓB* AND *SNOP* – AN H ELEMENT

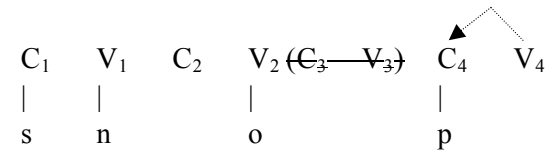
It has been discussed above how Licensing potential of the final empty V can sanction the lengthening in certain items, but precludes such lengthening in others. Let us once again repeat two representations - one in which lengthening takes place and one in which it does not:

(16)

a)



b)



In (16) above the Licensing Potential (the ability of a V position to support vocalic material) of V_3 is the same in a) and b). It should be no different, since the emptiness of both positions has resulted from a recent final yer loss. The difference between a) and b) must therefore lie in the nature of C_3. The melodies attached to C_3 in a) and b) are the same save for one feature – the voicing value.

As discussed in section 2, according to the Element Theory all segments consist of elements straightforwardly transmitted to articulation. The only property that distinguishes /b/ from /p/ (C_3 melodies) is voicing, which difference must be elementally expressed.

As evident from (16), /p/ absorbs more Licensing than /b/ - some potential to license is left for V_2 in a), but not in b). In terms of elements, it is more complex: it consists of more elements, therefore consumes all Licensing which V_3 is able to distribute. The elemental make-up of C_3 in (16a) and (16b) is suggested in (17):

(17) a) /b/ b) /p/

U	U (labiality)
ʔ	ʔ (stopness)
h	h (noise)
	H

Since /p/ has to be more complex in order to absorb Licensing, the difference in complexity must refer to the only characteristics which differs the two obstruents: voicing / aspiration (voicelessness). |H|| element for voicelessness is thus postulated for Polish at the stage of development instead of L for voicing, generally established for Slavic languages.

7.4. AN H ELEMENT ANALYSIS – ADVANTAGES

The analysis of CL presented above differs from the ones summarized in section 5. The existing interpretations, based solely on voicing, fail to account for Compensatory Lengthening outside Polish, though the process is known to have affected other systems as well.

The other Slavic languages that witnessed CL can be put on a scale according to the difficulty the process had to face in order to lengthen the stressed vowel. Segments allowing for and blocking the lengthening are put next to the corresponding languages (Kavitskaya 2002, 125):

(18) + –

Serbian	sonorants	obstruents
Czech	sonorants, voiced fricatives	voiceless fricatives, stops
Polish	all voiced consonants	voiceless consonants
Ukrainian	sonorants, fricatives, voiced stops	voiceless stops

(18) shows that is Serbian CL was blocked by the biggest class of consonants, so it was relatively difficult, while in Ukrainian the process was the easiest. The analysis suggested above is able to accommodate this data without employing any additional tools – all segments blocking the lengthening in a particular language consist of more elements than segments allowing for it. Details concerning the specific make-up of particular sounds are not going to be provided here due to spatial restrictions, yet the easiness for CL to operate can be universally expressed by the interaction of the number of elements, their prominence, licensing potential of an empty position in a given language and the Licensing Absorption principle.

8. CONCLUSION

The aim of this article was to present a cross-linguistic interpretation of Polish Compensatory Lengthening which would be applicable not only to this particular system, but also to the whole Slavic (and not only) world. It was also suggested that Polish in its earlier stages of development might have been an H-language, not an L-system as generally established, which may be an idea worth testing by means of examining other diachronic phenomena.

REFERENCES

Avery, Peter. 1996. *The representation of voicing contrasts.* Doctoral dissertation, University of Toronto.

Baudouin de Courtenay, Jan. 1870. *O drewne-polskom jazyke do XIV-go stoletija.* Lipsk.

Baudouin de Courtenay, Jan. 1984. *O języku polskim.* Warszawa: Państwowe Wydawnictwo Naukowe.

Bednarska, Katarzyna. 2015. *Quantity in Breton and Welsh.* Doctoral dissertation, Catholic University John Paul II in Lublin.

Bethin, Cristina. 1998. *Slavic Prosody.* Cambridge: University Press.

Carlton, Terence. 1991. *Introduction to the phonological history of the Slavic languages.* Columbus, OH: Slavica.

Cyran, Eugeniusz. 2010. *Complexity scales and licensing in phonology*. Berlin–New York: De Gruyter Mouton.
Cyran, Eugeniusz. 2011. "Laryngeal realism and laryngeal relativism: Two voicing systems in Polish?" *Studies in Polish Linguistics* 6: 45–80.
Cyran, Eugeniusz. 2014. *Between Phonology and Phonetics. Polish Voicing.* Berlin: De Gruyter Mouton.
Dunaj, Bogusław. 1966. *Wzdłużenie zastępcze w języku polskim.* Zeszyty naukowe Uniwersytetu Jagiellońskiego. Prace językoznawcze PAN, 17. Warszawa and Kraków: PWN.
Furdal, Antoni. 1964. "O przyczynach zmian głosowych w języku polskim." *Prace Wrocławskiego Towarzystwa Naukowego*, series A, no. 94. Wrocław: Ossolineum.
Gussmann, Edmund. 1980. *Studies In Abstract Phnology.* Cambridge Mass.: MIT Press.
Gussmann, Edmund. 2007. *The phonology of Polish*. Oxford: Oxford University Press.
Hammond, Michael. 1988. "On deriving the Well-Formedness Condition." *Linguistic Inquiry* 19(2): 319–325.
Harris, John. 1994, *English sound structure*. Oxford: Blackwell.
Harris, John. 2009. "Why final devoicing is weakening." In Kuniya Nasukava, and Phillip Backley (eds.), *Strength Relations in Phonology*, 9–46. Berlin: Mouton de Gruyter.
Honeybone, Patrick. 2005. "Diachronic evidence in segmental phonology: the case of obstruents laryngeal specifications." In Mark van Oostendorp et al. (eds.). *The Internal Organization of Phonological Segments*, 319–354. Berlin: M. de Gruyter.
Hyman, Larry. 1985. *A theory of phonological weight*. Dordrecht: Foris.
Kavitskaya, Darya. 2002. *Compensatory Lengthening: Phonetics, Phonology, Diachrony.* New York: Routledge
Kaye, Jonathan, Jean Lowenstamm, and Jean-Roger Vergnaud. 1990. "Constituent structure and government in phonology." *Phonology* 7, 193-231.
Klemensiewicz, Zygmunt, Tadeusz Lehr-Spławiński, and Stanisław Urbańczyk. 1965. *Gramatyka historyczna języka polskiego.* Warszawa: Państwowe Wydawnictwo Naukowe.
Koneczna, Halina. 1965. *Charakterystyka fonetyczna języka polskiego na tle innych języków słowiańskich.* Warszawa: Państwowe Wydawnictwo Naukowe.
Lowenstamm, Jean. 1996. CV as the only syllable type. In Jacques Durand, and Bernard Laks (eds.). *Current Trends in Phonology – Models and Methods*, 419–441. Salford / Manchester: European Studies Research Institute, University of Salford.
Łoś, Jan. 1922, 1925, 1927. *Gramatyka polska*, cz. I. Głosownia historyczna, cz. II. Słowotwórstwo, cz. III. Odmiennia (fleksja historyczna), Lwów.
Nitsch, Kazimierz. 1911. *Mowa ludu polskiego.* Kraków: L. Frommer; Warszawa: E. Wende.
McCawley, James D. 1977. "Accent in Japanese." In Larry M. Hyman (ed.). *A theory of phonological weight*, 261–302. Dordrecht: Foris.
Moren, Bruce. 2003. "Weight typology: An optimality theoretic approach." *Linguistic Review* 20: 281–304.
Pająk, Ewa. 2010. "Middle English Open Syllable Lengthening—a CVCV analysis." In Ewelina Mokrosz, Ewa Pająk, and Sławomir Zdziebko (eds.). *Young Linguists in Dialogue. The 3rd Conference*, 93–111. Lublin: Wydawnictwo KUL.
Rubach, Jerzy. (1986). "Abstract vowels in three-dimensional phonology: the yers." *The Linguistic Review* 5: 247–280.
Schane, Sanford S. 1984. "The fundamentals of Particle Phonology." *Phonology* 1: 129–156.
Scheer, Tobias. 1998. "Governing domains are head-final." In Eugeniusz Cyran (ed.). *Structure and Interpretation*, 261–285. Lublin: Folium.

Scheer, Tobias. 2004. *A Lateral Theory of Phonology: What is CVCV and why should it be?* Berlin: Mouton de Gruyter.
Shevelov, George. Y. 1964. *A Prehistory of Slavic.* Heildelberg: Carl Winter, Universitatsverlag.
Stieber, Zdzisław. 1966. *Historyczna i współczesna fonologia języka polskiego.* Warszawa: Państwowe Wydawnictwo Naukowe.
Stieber, Zdzisław. 1973. *A Historical Phonology of the Polish Language.* Heidelberg: Universitatsverlag.
Szober, Stanisław. 1931. *Gramatyka języka polskiego*. Warszawa.
Szpyra, Jolanta. 1992. "Ghost segments in non-linear phonology: Polish yers." *Language* 68: 277–312.
Timberlake, Alan. 1983a. "Compensatory lengthening in Slavic, 1: Conditions and dialect geography." In Vladimir Markov and Dean S. Worth (eds.). *From Los Angeles to Kiev: Papers on the Occasion of the Ninth International Congress of Slavists, Kiev, September 1983*, 207–235. Columbus, OH: Slavica.
Timberlake, Alan. 1983b. "Compensatory lengthening in Slavic, 2: Phonetic reconstruction." In Michael S. Flier (ed.). *American Contributions to the Ninth International Congress of Slavists, Kiev, September 1983.* Vol I: *Linguistics*, 293–319. Columbus, OH: Slavica.
Zdziebko, Sławomir. 2012. *Issues in Scottish Vowel Quantity*. Cambridge Scholars Publishing.

DŹWIĘCZNOŚĆ OBSTRUENTÓW W STAROPOLSZCZYŹNIE: ANALIZA WZDŁUŻEŃ ZASTĘPCZYCH

Streszczenie

Artykuł formułuje tezę, że w początkowych stadiach istnienia języka polskiego spółgłoski zwarte i zwarto-szczelinowe w tym systemie charakteryzowały się obecnością elementu H, odpowiedzialnego za bezdźwięczność, nie zaś elementu L, fonetycznie wyrażanego jako pełna dźwięczność we współczesnej polszczyźnie (i pozostałych językach słowiańskich). Propozycja ta jest oparta na analizie wzdłużenia zastępczego w modelu CVCV – procesu, który można zaobserwować w większości języków słowiańskich w momencie ich wyodrębniania się z języka prasłowiańskiego.

Słowa kluczowe: dźwięczność; elementy; wzdłużenie zastępcze; fonologia CVCV; licencjonowanie; reprezentacja fonologiczna; długość samogłosek.

.