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## OBSTRUENTISATION OF TRAPPED SONORANTS IN POLISH: THE CASE OF *r*

The aim of the paper is to explore the process of *r* obstruentisation which can be found in Polish in the ‘trapped’ context, i.e. between two obstruents or at the end of the word after an obstruent. More specifically, in order to explain the mechanics of the [r] > [ʒ/] shift, the author looks at the phenomenon of sonorant devoicing and some historical facts concerning the development of *r*. Since *r* obstruentisation can also be found in a closely related Czech, the data from both languages are confronted and discussed. The solution offered here is based on the analysis of *w* obstruentisation proposed by Cyran and Nisson (1998).

### 1. Introduction

In recent phonological literature one can notice a tendency to postulate separate phonological representations for the same phonetic unit within one system or cross-linguistically (Gussmann 2001, 2002, 2007, Bloch-Rozmej 2008, Cyran 2010).<sup>1</sup> One of the consequences of this proposal is that the elemental make-up of segments cannot be taken for granted but rather it should follow from a detailed analysis of particular segments (Cyran 2010). Some Polish sonorants like, for example, *r* and *w* are a perfect example of Dr Jekyll and Mr. Hyde like behaviour. Therefore, in what follows we discuss certain ‘double-life’ aspects of the Polish *r*. The discussion is supported by the findings of the analysis concerning *w* in Slavic presented by Cyran and Nisson (1998).

As a point of departure we briefly look at the phenomenon of the word-final obstruent devoicing in Polish and the laryngeal contrast underlying Polish and English stops. The former phenomenon can be observed cross-linguistically,

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<sup>1</sup> In the Government Phonology (GP) literature, phonetically identical segments which display different phonological behaviour have been dubbed ‘double agents’ after Gussmann (2001, 2002).

however, the analysis of the Polish facts is interesting as in this language also sonorants seem to be, in certain positions, affected by voice neutralisation.

## 2. Sonorants and voice neutralisation in Polish

Element Theory (Harris 1994, Harris and Lindsey 1995, Scheer 2004, Bloch-Rozmej 2008 and Cyran 2010 among others) recognises two laryngeal elements that can be active in a language, that is, (L) and (H) which stand for fully voiced and voiceless aspirated respectively. The elements express the voiced-voiceless opposition, for example, in Polish and English. Thus, English stops, unlike Polish ones, are contrasted by the presence or absence of a release burst, or aspiration. On the other hand, the opposition among the Polish plosives boils down to the contrast between fully voiced and voiceless unaspirated. It follows that English stops are contrasted by the element (H) which is present in the voiceless or fortis stops, while lenis series is neutral in that it does not include a laryngeal element (1a). Quite naturally then, Polish stops are contrasted by the element (L) which is present in the internal composition of the voiced series (1b).

(1)	a. English	b. Polish
/p, t, k/	(H)	–
/b, d, g/	–	(L)

From (1) above it follows that the voiced stops in English and the voiceless stops in Polish are neutral with regard to laryngeal specification. It means that in spite of the same phonological representation in both languages, the neutral stops yield different phonetic results.

Independent evidence for the claim that Polish ‘voiced’ stops (obstruents in general) contain the laryngeal element (L) comes primarily from what is known as final devoicing. This phenomenon is not specific to Polish only, quite the contrary, it affects obstruent systems cross-linguistically, e.g. German (Rubach 1990, Brockhaus 1995), Dutch (van de Weijer and van der Torre 2007), Russian (Hayes 1984, Gussmann 2002), Slovak (Rubach 1993), Polish (Gussmann 1992, Rubach 1996).<sup>2</sup>

Generally speaking voice neutralisation in Polish can appear in two forms as final devoicing (2a) and voice assimilation (2b).<sup>3</sup>

<sup>2</sup> For the cross-linguistic survey see Lombardi (1995, 1999) and Wetzels and Mascaró (2001).

<sup>3</sup> A detailed analysis of Polish facts in the standard generative model can be found in Gussmann (1978), the lexical approach is applied in Rubach and Booij (1987), final devoicing was also analysed in the non-linear models, e.g. Bethin (1984), Gussmann (1992).

- (2) a.
- |                    |                          |
|--------------------|--------------------------|
| Bó[k] – Bo[g]a     | ‘God, nom.sg./gen.sg.’   |
| ró[sk] – ró[zg]a   | ‘rod, gen.pl./nom.sg.’   |
| chle[p] – chle[b]a | ‘bread, nom.sg./gen.sg.’ |
- b.
- |                         |                            |
|-------------------------|----------------------------|
| za[b]a – za[pk]a        | ‘frog, nom.sg./dim’        |
| pro[ç]iéc – pro[zb]a    | ‘request, verb/noun’       |
| choro[b]a – choró[psk]o | ‘illness, nom.sg/express.’ |

The conclusion that can be drawn from the data in (2) is that Polish obstruents do not tolerate the element (L) in the word-final position (2a). Moreover, obstruent clusters display voice agreement being either uniformly voiced or voiceless (2b).<sup>4</sup>

In Element Theory the facts illustrated in (2) can be captured in a single statement as the decomposition of obstruents, i.e. the loss of (L), in the prosodically weak positions. Note that in the Strict CV model the context of obstruent neutralisation, that is a word-final and preconsonantal position, can be reduced to a single position, i.e. before the empty nucleus. Since in this theoretical framework consonants are licensed by the following nucleus, it is natural to assume that empty nuclei have less licensing power than the ones occupied by an audible vowel (see Harris 1994, 1997, and Cyran 2010).

When confronted with obstruents, sonorants reveal a totally different voice activity. One of the main differences which separates the two classes of consonants, i.e. obstruents and sonorants, is that the latter do not normally undergo devoicing (3a) or trigger voice assimilation (3b).

- (3) a.
- |                      |                           |
|----------------------|---------------------------|
| da[r] – da[r]u       | ‘gift, nom.sg./gen.sg.’   |
| wi[lk] – wi[lg]a     | ‘oriole, gen.pl./nom.sg.’ |
| poka[rm] – poka[rm]u | ‘food, nom.sg./gen.sg.’   |
- b.
- |                    |                     |
|--------------------|---------------------|
| [gr]ób – [kr]upnik | ‘grave/barley soup’ |
| [zl]e – [çl]e      | ‘badly/(s)he sends’ |
| [bl]ady – [pl]ecy  | ‘pale/back’         |

The fact that sonorants do not play an active part in various voice phenomena is captured in Element Theory by a simple fact that sonorants are not specified for the laryngeal elements. In other words, they lack the elements (L) and (H)

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<sup>4</sup> As reported in Gussmann (1992) and Rubach (1996) voice assimilation in Polish holds not only word-internally but also across word boundaries, e.g. *ja[g z]awsze* ‘as always’. Note, however, that the latter phenomenon depends on tempo of speech, individual speakers’ care and many other (dialectal) factors, which simply means that in Polish, unlike in Russian, for instance, this is an optional process.

from the internal composition. However, it is generally accepted that Polish allows for rare cases of sonorant devoicing (Biedrzycki 1978, Bethin 1984, Rubach and Booij 1990a,b, Rubach 1996, 1997a,b, Gussmann 1992). Generally speaking, the context in which the sonorant undergoes devoicing boils down to two positions. Thus, it applies in the word-internal position when the sonorant is trapped between two voiceless obstruents. In this situation the sonorant is assumed to propagate the voicing between the obstruents being itself a subject to devoicing (progressive or regressive) (4a). Secondly, the sonorant devoicing appears word-finally if a sonorant is preceded by an obstruent (4b). Note that if the preceding obstruent is voiced it is neutralised (4c). Thus, in both (4a) and (4c) a sonorant propagates voicing while at the same time being itself devoiced.

(4) a.

mę[dr]jek – mę[tʂk]a	‘wiseacre, nom.sg./gen.sg.’
Ję[dr]jek – Ję[tʂk]a	‘name, nom.sg./gen.sg.’
[kr]jewny – [krʲ]i	‘relative/blood, nom.sg.’

b.

wia[tr]u – wia[tʂ]	‘wind, nom.sg./gen.sg.’
Pio[tr]a – Pio[tʂ]	‘Peter, nom.sg./gen.sg.’
musz[tr]a – musz[tʂ]	‘drill, gen.pl./nom.sg.’

c.

bo[br]a – bó[pr]	‘beaver, nom.sg./gen.sg.’
boja[ʒn]i – boja[ʒn]	‘fear, nom.sg./gen.sg.’
bli[zn]a – bli[sn]	‘scar, gen.pl./nom.sg.’

The data illustrated in (4) point to the conclusion that Polish sonorants do undergo devoicing but only in a situation when they are trapped (internally or finally). In all other cases the sonorants are voiced.<sup>5</sup>

Finally, what is worth mentioning here is the dialectal difference in the voicing behaviour of the labiodental fricative [v]. Thus, in Standard Polish this fricative, just like a regular obstruent, undergoes devoicing and triggers voice assimilation, e.g. [krev]ny – [krʲ]i, ‘relative/blood, gen. sg., [veʃ] – o[tʃ]awić, ‘louse/delouse’, respectively. However, as reported in Gussmann (1992) and Rubach (1996), in Eastern Polish the same fricative refuses to devoice in the presence of the voiceless obstruent (5).<sup>6</sup>

<sup>5</sup> The facts concerning trapped consonants, their syllabification and the previous accounts have been exposed at greater length in Kijak (2008).

<sup>6</sup> It has been proposed that in Slavic the surface [v] is derived historically from the glide /w/, see Flier (1972). For the analysis of Polish [w] > [v/f] facts see Kuryłowicz (1952), Gussmann (1981, 1992) and Bethin (1992).

(5)

[tv]ój	‘your’	[t̥sv]any	‘cunning’
[kv]iat	‘flower’	[krv]i	‘blood, gen.’
[sv]oboda	‘freedom’	[trv]ać	‘to last’

Although marginal in Polish, this peculiar behaviour of the labiodental fricative calls for an explanation as it is the only counter-example to the otherwise regular voicing condition holding among Polish obstruents.

There are two immediate questions which arise from the brief discussion above. Firstly, are the sonorants in Polish specified for voice? If not, how come they undergo devoicing or trigger voice neutralisation (4 a-c)? Secondly, why is the labiodental fricative the only exception to the uniform behaviour of obstruents? Is it merely a minor peculiarity occurring in Polish or is it a more general pattern confirmed by other languages? Let us begin with the latter question first. Thus, even a cursory look at the cross-linguistic voicing behaviour of the labiodental fricative shows that this segment behaves inconsistently not only in Polish (Kuryłowicz 1952, Gussmann 1981) and the aforementioned Russian (Andersen 1969, Hayes 1984, Gussmann 2002), but also in many other languages, e.g. Slovak (Rubach 1993), Hungarian (Siptár 1996, Szigetvári 1998, Blaho 2002), Irish (Cyran 1997), Welsh (Cyran 2010), Dutch (van der Torre 2003, van Oostendorp 2007), Frisian (Visser 1997), among others. In the section that follows we briefly discuss the solution to the problem of the labiodental fricative [v] in Slavic offered by Cyran and Nilsson (1998). Their analysis will then be extended to explain the obstruentisation of *r* in Polish and some further consequences of this process.

### 3. The double life of sonorants

In this section we focus our attention on the proposal put forward in Cyran and Nilsson (1998) to account for the historical shift [w] > [v/f] in Slavic. The solution boils down to the idea that the headedness of the resonance element may be responsible for the effect of friction (Cyran 1996, 1997, 2003, Ritter 1997). This idea explains the aforementioned peculiar behaviour of the labiodental fricative [v] in voicing phenomena and phonotactic distribution in various languages. Moreover, their analysis points to the possibility of the element addition which is locally absent. Bear in mind that in Element Theory an element may be added to the internal composition of a segment only if it occurs in the internal make-up of neighbouring segments. In the following sections we shall see that the Cyran and Nilsson's (1998) solution may shed new light on the [r] > [ʒ/j] development in Polish.

The point of departure for Cyran and Nilsson's (1998) analysis is the development of the Common Slavic \*w in various Modern Slavic languages. Thus the historical glide [w] is rendered by different reflexes in different languages. The relevant facts are illustrated in table (6), which has been adapted from Cyran and Nilsson (1998:90).

(6)

a.	b.	c.	d.	e.	
E.Ukr.	St. Ukr.	St. Slovak	St. Czech	St. Polish	
[woda]	[voda]	[voda]	[voda]	[voda]	'water'
[twij]	[tvij]	[tvoj]	[tvu:j]	[tfuj]	'your'
[wpasty]	[wpasty]	[fpadnu:c]	[fpadnowt]	[fpactc]	'fall into'
[sliw]	[sliw]	[slow]	[slof]	[swuf]	'words, gen.pl.'
[ławka]	[ławka]	[la:wka]	[la:fkə]	[wafka]	'bench'

Thus, according to the data in (6) languages may preserve the labial glide in all positions, e.g. East Ukrainian, or the glide evolves into an obstruent in certain contexts only, e.g. Standard Ukrainian. Being an obstruent it can alternate with its voiceless counterpart, that is, [f], while still alternating with the glide, e.g. Standard Slovak. Finally, in languages like Standard Polish or Czech the original labial glide does not appear in alternations and its voiced fricative reflex alternates with the voiceless counterpart. Interestingly enough, while in Standard Polish the labial fricative reflex, that is, [v] behaves like a regular obstruent in that it undergoes final devoicing and voice assimilation, in Czech it does not appear in progressive voice assimilation, e.g. [tvu:j] 'your'. It follows that Standard Polish is the extreme point in (6) as, at least from the voicing point of view, it consistently interprets [v] as the obstruent. Quite uncontroversially, the shift [w] > [v/f] is considered as the example of fortition, hence it consists in the addition of consonantal material. However, the development is peculiar in that in certain cases it is not possible to find a local donor, e.g. Polish [voda] 'water', and it occurs in both strong and weak positions, e.g. Polish [tfuj] 'your' and [swuf] 'words, gen.pl.' respectively. Accordingly, Cyran and Nilsson (1998) indicate that the shift [w] > [v] cannot be explained as the addition of the noise element (h) because there is no local source for this spreading. Moreover, the addition of (h) would yield (U.h), which represents a voiceless fricative rather than the required voiced one. Therefore the analysis they propose includes two stages. The first step consists in the shift [w] > [v] = (U) > (U̲). Building on the findings in Irish (Cyran 1996, 1997), Cyran and Nilsson (1998) assume that headedness of the resonance element may bring out audible friction in consonants. This step explains the sonorant-like behaviour of [v] in many languages like, for example, Russian. In this language obstruent clusters are uniform with respect to voicing not only within words but also across word boundaries, e.g. *kni*[ʒok]a 'book, dim. gen. pl.' vs. *kni*[jk]a 'nom. sg.' and *bra*[t]a 'brother, gen. sg.' vs. *bra*[d] [g]ovorit 'brother speaks' respectively.<sup>7</sup> However, the voicing uniformity does not hold when the next word begins with a vowel, a sonorant and the labial fricative [v], e.g. *bra*[t] [r]abotaet 'the brother works' vs. *vku*[s] [vʲ]ina 'the taste of wine'. Similarly, the solution [w] > [v] = (U) > (U̲) can be applied to languages from outside the Slavic family. In Hungarian, for example,

<sup>7</sup> The Russian examples have been collected from Gussmann (2002:194).

obstruent clusters agree in voicing and their voicing property is determined by the last obstruent in the sequence, e.g. *la*[bd]*a*, ‘ball’, *smara*[kt], ‘emerald’. Moreover, word-initial consonant clusters invariably consist of an obstruent followed by a sonorant. Both constraints, however, are violated by the labial fricative [v], e.g. *csón*[tv]*elő*, ‘bone marrow’, and [tv]*iszt* ‘twist’ or [kv]*arc* ‘quartz’.<sup>8</sup> Such peculiarities can be solved in a straightforward way if we represent [v] as (U), that is, a headed resonance element. It means that [v] cannot undergo devoicing or propagate voicing simply because it is not specified for the laryngeal element (L).

The second step of the development involves obstruentisation, that is, [w] > [v] > [v/f]. In other words, what we are dealing with here is a phonological reinterpretation which consists in assigning a phonological status to phonetically present properties, i.e. the friction and voicing included in (U) are assigned a phonological status, that is, (h) and (L), hence, (U) > (U.h.L). This step may explain the situation in Slovak which allows for two kinds of alternations [w] ~ [v] and [v] ~ [f]. Cyran and Nilsson (1998) conclude that in Slovak two representations of [v] exist side by side, i.e. (U) and (U.h.L). The same line of reasoning is applied to Polish and Czech data. The former language is assumed to have undergone the change completely. Finally, it is worth mentioning that this proposal is able to capture the fact why obstruentisation of sonorants typically results in voiced obstruents (Kenstowicz 1994).

Summing up, the result of the idea that headedness may bring about friction is twofold. Firstly, it contributes to the explanation of some historical changes which lack a local source or trigger. Secondly, it accounts for the double nature of some consonants which fluctuate between a sonorant and an obstruent. Moreover, it emphasises the fact that what is phonetically one segment may have two different phonological representations in the same system or in two different systems. Hence, the postulation of the internal structure of segments should follow a thorough and in-depth analysis rather than being accepted a priori. In what follows we return to the problem of sonorant devoicing outlined in section 2 above.

#### 4. *r* obstruentisation

Having discussed Cyran and Nilsson’s (1998) solution to the inconsistent behaviour of the labiodental fricative [v], we are in a position to discuss sonorant devoicing outlined in section 2 above and offer a solution to *r* obstruentisation. Let us start with the latter phenomenon, i.e. [r] ~ [ʒ/ʃ] alternations or obstruentisation. Interestingly *r* obstruentisation is active in both Polish and Czech where certain occurrences of the surface [ʒ/ʃ] and [ř] respectively result from the diachronic restructuring similar to the one responsible for the [w] > [v/f] shift described above.

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<sup>8</sup> The Hungarian data come from Blaho (2002).

We begin the discussion by presenting the distribution of the palatalised version of the Polish *r*, that is, the voiced postalveolar fricative [ʒ]. This fricative can arise due to a synchronic productive alternation (7a) or a diachronic change (7b).

(7) a.		b.	
wó[r] – wo[ʒ]e	‘sack, nom.sg./loc.sg.’	[dʒ]ewo	‘tree’
ca[r] – ca[ʒ]e	‘tsar, nom.sg./loc.sg.’	[ʒ]eka	‘river’
ka[r]ła – ka[ʒ]eł	‘dwarf, gen.sg./nom.sg.’	[kʃ]ywda	‘injury’
pa[r]a – pa[ʒ]e	‘couple, nom.sg./loc.sg.’	pieka[ʃ]	‘baker’

Since the synchronic alternation takes place before the vowel, the result is always the voiced [ʒ]. On the other hand, the appearance of the voiceless palatalised reflex of *r*, that is, [ʃ] depends on the voicing specification of the neighbouring segments or the word-boundary (7b). In other words, the voicing of the palatalised *r* always agrees with the voicing of the neighbouring obstruents. Moreover, word-initially and intervocalically it is always voiced, while word-finally voiceless. The immediate conclusion drawn from the data in (7) is that [ʒ] is a genuine obstruent which undergoes final devoicing and is subject to voice agreement. In other words, sonorants which are generally not sensitive to voice assimilation and final devoicing, once palatalised (synchronically and diachronically) acquire the obstruent characteristics in that they undergo both processes.<sup>9</sup> Similarly, closely related Czech abounds in the [r] ~ [ř] alternations.<sup>10</sup> As noted by Scheer (1998:52) the latter segment, that is, [ř] shows the articulatory properties of both the liquid [r] and the postalveolars [ʒ/ʃ]. Thus, the Czech fricative [ř], just like the Polish [ʒ], observes the obstruent voicing uniformity and undergoes final devoicing (8a). Moreover, it is always voiced word-initially and in the intervocalic position (8b). Finally, just like in Polish, the voiced [ř] may be the result of a synchronic alternation (8c).<sup>11</sup>

(8) a.		b.	
[dř]evo	‘tree’	mě[ř]it	‘measure’
[bř]ech	‘coast’	talí[ř]ek	‘saucer’
[př]íklad	‘example’	[ř]eka	‘river’
peka[ř] – peka[ř]e	‘baker, nom. sg./gen. sg.’	[ř]etěs	‘chain’
c.			
ba[r] – ba[ř]e	‘bar, nom.sg./loc.sg.’		
dvú[r] – dvo[ř]e	‘mansion, nom.sg./loc.sg.’		
pá[r]a – pá[ř]e	‘couple, nom.sg./loc.sg.’		

<sup>9</sup> Similar examples can be found in German, French, Romansch (Scheer 2004).

<sup>10</sup> Since IPA does not provide a separate symbol for ‘ř’ and its voiced/voiceless alternates, Scheer (1998) uses unconventional symbols to refer to them. In what follows we will use [ř] and [ř̥] when referring to respectively voiced and voiceless realisations of ‘ř’.

<sup>11</sup> Czech data come from Scheer (1998, 2004).

The data in (8) unquestionably point to the conclusion that [ř] behaves like an ordinary obstruent and hence must be regarded as an obstruent. This is additionally confirmed by Scheer (1998:55) who notes that '[ř/ṛ̌], unlike [r] and just like any fricative, can never be syllabic nor bear stress in Czech.'

Now, coming back to our initial example of the [r] ~ [ʒ/ʒ̣] alternation in Polish, it must be noted that Polish *r* has undergone obstruentisation in yet another context, that is, in the position where the sonorants undergo devoicing (see again (4) above). In other words, in addition to the forms under (7b), the shift [r] > [ʒ/ʒ̣] can be found in the position of the present-day trapped consonants, that is, between two consonants (9a) and in the post-obstruent final position (9b).<sup>12</sup>

(9) a.		b.	
	[bʒd]ąkać		pat[ʃ]
	'to strum'		'look, imp.'
	[bʒm]ieć		wywiet[ʃ]
	'to sound'		'air, imp.'
	[dʒv]i		spię[tʃ]
	'door'		'pile up, imp.'
	[gʒb]iet		rozisk[ʃ]
	'back'		'incite, imp.'
	[gʒm]ot		wich[ʃ]
	'thunder'		'stir up, imp.'
	[pʃt]ykać		wiep[ʃ]
	'to fillip'		'pig'
	[tʃp]ień		piep[ʃ]
	'pivot'		'peper'
	[tʃm]iel		
	'bumble-bee'		
	[tʃn]adel		
	'yellow-hammer'		
	[kʃt]usić		
	'to choke'		

A word of clarification concerning the diachronic shift is in order here. All the historical grammars inform that certain occurrences of the Polish postalveolar fricative [ʒ] have evolved from the sonorant /r/ (Stieber 1973, 1979, Lehr-Spławiński 1957, Klemensiewicz et al. 1964). Accordingly, it has been proposed that synchronically the surface [ʒ/ʒ̣] in forms like those under (7b) and (9a, b) are the phonetic realisations of the underlying palatalised sonorant /r'/ (for the phonological status of [ʒ/ʒ̣] see Kuryłowicz 1952, Gussmann 1981, 1991, 1992).

Having cleared the ground a bit, let us address the question of the synchronic alternation in Polish (7a) and Czech (8c) first. Quite uncontroversially, such alternations are treated as a regular case of palatalisation with the local trigger in the form of the following front vowel [e]. In Element Theory this process could be explained as a spreading of the element (I) from the internal composition of the vowel [e] = (I.A). The incoming (I) acquires the head role in the target segment and hence produces friction, viz. [r] > [ʒ], (A. ) + (I) = (A. I). This change is identical to the one concerning the shift [w] > [v] described in the previous section. Note, however, that the same explanation is not applicable to the diachronic case, either because the fricative undergoes devoicing, hence it must be specified for (L) in order to be able to lose it, e.g. [kʃ]ywda 'injury' Pol., [pṛ̌]iklad 'exam-

<sup>12</sup> The data in (9) have been collected from Rowicka (1999:314) and Cyran (2003:183).

ple' Cze., or there is no local donor of the element (I), e.g. *pieka*[ʃ] 'baker' Pol., *peka*[ɧ] 'baker' Cze. Both observations hold true also in the 'trapped context' as in (9) above, e.g. [pʃt]ykać 'to fillip', [tʃn]adel 'yellow-hammer'. Following Cyran and Nilsson (1998), we propose to represent the historical shift [r] > [ʒ] as a two-step change or the case of phonological reinterpretation, i.e. [r] > [ʒ/ʃ] = (A.₋) > (A.Ḑ) > (A.I.h.L). The immediate problem we are faced with is the source for the element (I) in the historical development. The trigger of the historical shift may be the loss of the historic vowels, i.e. jers. Since jers are divided into front and back, it is claimed here that the disappearing front jer palatalised the preceding sonorant which was later restructured into a fricative. In this situation the first step of the historical shift would be similar to the one observed synchronically. The second step involves assigning a phonological identity to phonetic characteristics, that is, [ʒ] > [ʒ/ʃ] = (A.Ḑ) > (A.I.h.L). Since this is a typical obstruent specification, it comes as no surprise that the fricative in Polish and Czech is subject to voice agreement and final devoicing.

Finally, a word of explanation concerning sonorant devoicing, illustrated in (4) above, is in order here. As has already been mentioned, only trapped sonorants are affected by devoicing. However, sonorant devoicing is different from the one described above in that it is simply a phonetic effect induced by the context in which the sonorant occurs. In other words, the context of two voiceless obstruents does not create a favourable condition for vocal folds vibration to arise.<sup>13</sup> It follows that this context inflicts a change on *r* in that the sonorant either becomes an obstruent or is phonetically devoiced. I leave the question of why the same segment in the same context results in two different objects open for further study.<sup>14</sup>

## 5. Conclusion

The main aim of the analysis was to indicate that phonetically identical objects do not always reflect identical phonological representations. This is a common fact observed across languages (Cyran 1997, 2010) as well as within one system as indicated above. Moreover, Element Theory allows for the element spreading or addition only in a situation when the element in question is locally present. In other words, a segment in order to acquire a new material must be strictly adjacent to the donor. From the discussion in this paper it follows that at least some historical processes do not require a local trigger, rather the internal composition of a given segment undergoes reshuffling bringing about the change. This solution gives a uniform explanation of the double life of some consonants, for instance, the sono-

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<sup>13</sup> In Bethin 1992 and Rubach 1997 it is claimed that sonorant devoicing in Polish belongs to the domain of phonetics rather than phonology.

<sup>14</sup> A solution to this problem may be sought in different representation of trapped and syllabic consonants, see Kijak (2008).

rant-like behaviour of [v] (Cyran and Nilsson 1998), and the obstruent-like behaviour of *r* (this article). In both instances the sonorants undergo obstruentisation as the result of the phonological reinterpretation. Moreover, we have discussed a situation in which the trapped *r* faces restructuring and acquires some obstruent-like characteristic. As such it is a subject to obstruent voice uniformity just like any obstruent in the Polish system.

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