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The topic of this paper is a relatively minute detail of the phonology of Hungarian, the question of why the segment [h] (or rather its non-prevocalic allophone, [x]) fails to get voiced when followed by a voiced obstruent, despite the fact that it does itself trigger regressive voicing assimilation, thus it participates in the game typical of obstruents only. I will show that although the target, [x] is an obstruent, it is not affected by voicing because it is not plain voiceless like other obstruents, but aspirated.

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There are several types of answers that can be given to the question posed by the title. A phonetician, for example, could say that the question is invalid because its presupposition is not true: [h] does get voiced in Hungarian, typically in intervocalic position (*noha*[1] 'although') and between a sonorant and a vowel (*ko*[ɲ]*ha* 'kitchen', *marha* 'cattle', *málha* 'luggage'). A phonologists response could be that he is not interested in this kind of spontaneous voicing, as the resulting [ɦ] will never be distinctive. Intervocalic voicing, including the voicing of consonants observed between a sonorant and a vowel, is never distinctive and can be detected in all sorts of languages. As an example, we may cite English, where obstruents devoiced at word edges are (spontaneously) voiced in exactly the same environment: intervocalically.

The other environment where [h]-voicing may have a chance to happen is in obstruent clusters. Between two superficially adjacent obstruents regressive voicing assimilation takes place in Hungarian: the voicing of the first member of the cluster is determined by that of the second. It is rather well known that two segments exhibit peculiar behaviour with respect to this phenomenon: [v] on the one hand, in that it becomes assimilated (*tév+tan* → *té*[f]*tan* 'false doctrine'), but does not assimilate (*hat+van* → **ha*[d]*van* 'sixty');[2] and [h] on the other, which assimilates a preceding obstruent (*ad+hat* → *a*[t]*hat* 'may give'), but does not itself become assimilated (*potroh+ba* → **potro*[ɦ]*ba*, **potro*[ɣ]*ba* 'into the abdomen'). Apart from these two sounds, the rule of regressive voicing assimilation neatly separates obstruents and sonorants: only the former participate in it both as input and as environment. The difficulty comes with [h] and [v]. If we regard them as obstruents then [v] should assimilate

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[1] I use the standard orthography throughout this paper except for cases where it diverges from IPA in an unpredictable way and the consonant is relevant for the issue discussed.

[2] The fact that [v] does not assimilate is true of the standard dialect. There are dialects spoken in the western part of the country in which [v] voices a preceding obstruent like any other obstruent, hence *ha*[d]*van*.

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the preceding obstruent and [h] should become assimilated to the following one, if we were to treat them as sonorants then [v] should not become assimilated and [h] should not assimilate.

A number of proposals have been made to explain the odd behaviour of [v]. According to Kornai [v] is an obstruent, but its voicing is not specified on the laryngeal tier as is usual, but on the manner tier (1994 : 25f). In one of his analyses, Siptár, following Vago (1980), takes [v] for a sonorant, which is devoiced by an ad hoc rule (1995 : 45). According to a more recent analysis of his, [v] does not have a laryngeal node which could host a [voice] feature, similarly to sonorants, thus it is unable to be a source of the spreading of this property. In coda position, however, it is linked to a laryngeal node, and that makes it similar to obstruents (Siptár 1996). Zsigri (1996 : 278) shows that Kornai's solution is not only stipulative but also makes bad predictions: if [v] is an obstruent but does not voice the preceding obstruent because its [voice] feature is not on the laryngeal tier, then it "counts" as a voiceless obstruent, since Kornai has unary features and it is voiceless obstruents that are specified as [obstruent] on the manner tier and have no specification on the laryngeal tier. As such [v] should devoice a preceding obstruent, which of course it does not do. As for Siptár's (and Vago's) sonorant [v], Zsigri criticizes its being so different from other obstruents although it devoices like any of those. He also notes that some dialects treat this sound as a normal obstruent but there is no difference between the [v]'s in the two types of dialects and that it participates in the voiceless–voiced dichotomy typical of obstruents only (1996 : 274). His proposal it to introduce a new binary feature, [$\pm$transient], which supplants [$\pm$nasal] and distinguishes nonnasal sonorants ([+transient]) from nasals ([$-$transient]) on the one hand and [v] ([+transient]) from all other obstruents ([$-$transient]) on the other. The members of the resulting natural class ([v l r j h]) alternate with each other and with zero — hence the name ot the feature — in several Hungarian dialects (1996 : 278f).

The resistance of [h] to becoming voiced is an even more complex issue, as it is actually not [h] that does not become voiced but its preconsonantal, strengthened allophone, [x].[3] The sound [h] itself could be considered nonconsonantal (e.g., Siptár 1995 : 44), and the set of sounds that get voiced could be restricted to true consonants thus excluding [h]. But the same could hardly be believed about the velar version, [x], which is the real input of the rule. Siptár proposes ordering the [h] $\rightarrow$ [x] rule after voicing assimilation (1995 : 71), but later admits that this is not an adequate solution since both rules are postlexical (1996 : 86). Zsigri's proposal is to regard all words ending in [x] as marginal in the lexicon, thus behaving as phonetic qoutations, which regularly escape voicing assimilation (1996 : 282). He explains that the number of items involved is very little, which apparently means that this solution is more economical than others that try to attribute the behaviour of [h] to its segmental make-up. A third alternative is to ban the appearance of the segment [ɣ] in the grammar by brute force (Siptár 1996 : 86), which again is unsatisfactory: there are numerous examples of underlyingly nonexistent segments evolving of regressive voicing assimilation. (Hungarian [d͡z] is an example, one of the sources of which is [t͡s] undergoing voicing; Russian [ʤ] is

[3] I do not take into consideration the dialect, which sounds affected to many, in which the allophonic realization of non-prevocalic [h] is influenced by the preceding vowel: depending on its palatality or velarity we get [ç] or [x], respectively. I also disagree with Abandolo, who claims that the buccal version of this sound gets voiced in the relevant context like any other obstruent would (1988 : 67).

another, which only surfaces as voiced [ʧ], while Russian also exhibits the process [x] → [ɣ], which is precisely what we want to exclude.)

If we are to attribute the failure of preconsonantal [h] (or, more precisely, [x]) to voice in Hungarian to its internal characteristics rather than to the speciality of all the lexical items containing it, we have to adopt some theory of segmental make-up first. This is what we are going to turn to at present.

In contemporary phonological theory there are two competing approaches in modelling sounds, one using binary, the other using unary features. Theories using binary features can make reference both to the presence and to the absence of a property of a sound, while the latter option is not available in unary frameworks. A unary framework is thus more restricted, it can handle less types of processes, and therefore *ceteris paribus* is more valuable than one using binary features. It follows that until theories applying unary features do not become untenable, there is no reason to accept binary features.

The typical voiceless–voiced opposition in obstruents is represented by a binary system as a feature [−voice] in the make-up of the former and [+voice] in the latter type. In contrast, if we adopt a unary framework then we first have to make a decision on whether the distinctive feature should be [voiced] or [voiceless]. Subsequently the opposition may be expressed by either including [voiced] in the voiced or [voiceless] in the voiceless party. Crucially the other member of the opposition will not involve any specification of voicing or voicelessness. Whichever of the two options we take, of two sounds that only differ in this respect one will contain one more feature than the other. So while in a binary framework each segment has the same number of features (at least superficially) and differences between segments are only in the values of features, segments in a unary framework may also differ in the number of features making them up. Although it is true that an underlying representation in a binary underspecification model will typically not contain all feature values, some of them are filled in during the derivation, by the end of the derivation, however, all the features (of the given language) will be present with some value.

Dependency and Government Phonology are two contemporary frameworks that explicitly aim at applying only unary features. The latter, for example, posits an element **L**, the salient property of which is [slack vocal folds]. This element can be equated with a unary feature [voiced]. There is, however, a crucial difference between standard unary features and GP elements: whereas the former are typically conceived of as abstract properties of sounds that are manipulated by the phonology, GP elements are sounds themselves, they are claimed to be phonetically interpretable in isolation. Unfortunately **L** happens to be one of the elements of which this is not true, at least I do not know of any consonantal interpretation that has been proposed for **L**. There appears to be another problem with the laryngeal elements in this theory: the standard assumption, as sketched by Kaye et al. 1990: 215ff, is that voiced obstruents contain **L**, while voiceless obstruents contain **H**, an element whose salient property is [stiff vocal folds]. Since because of their salient properties **L** and **H** are incompatible, they are claimed to be mutually exclusive within a segment (e.g., by

Brockhaus 1995: 219). If it weren't for the fact that there is claimed to be a series of obstruents without either **L** or **H**, we would be faced with the binary feature [±voice] under disguise.

In unary feature systems the opposition of two sounds, as we have seen, is expressed by one of them having some property, that is feature, which the other lacks. It is a characteristic of binary features that one of the values is more marked (more special, rarer) than the other. In a unary framework it will then be the marked value that will be established as the unary feature, since of the two sounds in opposition the one having this feature will be more marked, it will be marked by the feature in question.

There are several criteria on which to base our decision on whether it should be [voiced] or [voiceless] that expresses the opposition in this dimension. If we examine the distribution of obstruents across languages we find that every language has voiceless obstruents and there are langauges which have only this type of obstruents (Maddieson 1984: 26ff). The case of fricatives is not as straightforward as that (*op.cit.*: 47ff) — I will return to a possible reason for this in footnote 17 — nevertheless there are numerous languages (e.g., Ancient Greek, Latin, Old English) which have only voiceless, and not voiced, fricatives.

Another, perhaps even more decisive criterion for treating voicelessness as the unmarked option is the fact that in environments where laryngeal distinctions neutralize (for example, word-finally in German and Polish) it is always the voiceless member of the pair that survives.[4]

This means that we have to opt for [voiced] (that is **L**) to represent the opposition, thus expressing that among obstruents voiceless sounds are less marked than voiced ones. There remains the issue, however, of what should happen to sonorants. These are typically voiced, yet if we build the feature [vcd] in their representations we make them more marked than voiceless sonorants, which are much less common and even when they do turn up they only do so in langauges that already possess their voiced counterparts, that is they are more marked. If on the other hand, **L** is not part of voiced sonorants then why are they voiced? It has been known for quite some time that sonorants are voiced differently than obstruents. While for the former the vibration of the vocal folds is spontaneous, in the articulation of an obstruent an effort has to be made to get the vocal folds to vibrate (cf. e.g., Chomsky & Halle 1968: 300f). The meaning of the element **L** is thus not that the sound it forms part of is voiced phonetically, that is, that the vocal folds are vibrating, but that it is markedly voiced: some effort must be made to have voicing. This explains why, although vowels and

[4] In Hungarian (and other languages') regressive voicing assimilation the voiced–voiceless opposition is neutralized and not necessarily towards the voiceless party. The voicing in this case, however, has a well-definable source: the following voiced obstruent. I know of no case (disregarding the intervocalic site mentioned at the beginning of this paper) where this opposition would neutralize towards the voiced member without any explicitly voiced environment.

sonorants are all voiced, the element **L** is included in the make-up only of voiced obstruents[5] (Hayes 1984). There is no need for any phonetic implementation module to determine that obstruents without any voicing specification are to be pronounced voiceless, while sonorants and vowels voiced: the vibration of the vocal folds or its absence follows spontaneously from other properties of the segment and the anatomy of the human articulators, in much the same way as the fact that a glottal stop cannot be nasal(ized).

The embarrassing situation GP has found itself in, namely that a binary contrast, voiced vs. voiceless is expressed by two unary features, can thus be resolved along the lines suggested by Hayes, as is done by Harris (1994 : 133ff). He claims that voiced obstruents contain **L**, plain voiceless obstruents lack any laryngeal element, while **H** in an obstruent marks it as aspirated. The cooccurrence of both elements does not have to be ruled out stipulatively any more, together they represent the rather marked voiced aspirated series. It must be noted that with this view of **H** [stiff vocal folds] cannot be maintained as the salient property of this element. Instead, since **H** is responsible for aspiration, we must assume that [spread glottis] is its most typical characteristic.

Under this interpretation of the element **L**, the trigger of regressive voicing assimilation does not have to be restricted to obstruents, since the spreading element is present only in voiced obstruents anyway. The process is a result of the condition that two successive[6] consonants must share the element **L**. This can be seen in (1):

(1) The condition

$$\begin{array}{cc} C_1 & C_2 \\ \ddots & | \\ & \mathrm{L} \end{array}$$

As it stands, this condition has two flaws: on the one hand, **L** spreads on the preceding consonant be it an obstruent or not, on the other, this solution seems to support those who prefer binary features, because it is not only voiced obstruents that voice the preceding voiceless (*va*[ʃ]+*golyó* → *va*[ʒ]*golyó* ‘iron ball’), but also a voiceless obstruent devoices the preceding voiced (*dob*+[s]*oló* → *do*[ps]*oló* ‘solo by the drum’), but there is no equivalent of a [voiceless] feature that could be shared.

[5] At this point **L** can be excluded from the representation of nonobstruents only by a stipulation. Alternatively, it may be given some other interpretation when not in obstruents. For this purpose nasality may be a candidate: obstruents are typically nonnasal and nasality sometimes causes obstruent voicing. But there are also problems: nasals are thus expected to denasalize where obstruents devoice, something they do not typically do.

[6] The position of these two consonants in the prosodic hierarchy is irrelevant. In traditional terms the first one is in a coda, the second in an onset. In frameworks where word-final consonants are not considered codas, the cluster can either be a coda–onset cluster or a sequence of two successive onsets with an intervening empty nucleus. Lowenstamm’s (1996) CV approach would again provide a uniform generalization of the environment: the two consonants are Cs flanking an empty V.

A remedy to the first problem is provided by feature geometry, according to which features are not anchored to timing slots in unorganized bundles but group in a hierarchical structure organized by nodes. Two widely accepted nodes are the place node, which gathers the features responsible for place of articulation, and the laryngeal node, which may have the features of voicing, aspiration, glottalization etc. linked to it. With this hypothesis all we have to suppose is that only obstruents possess a laryngeal node, which is plausible anyway since it is only these that show such oppositions. Thus the **L** element of the following consonant would spread on a sonorant in vain: not having a laryngeal node it would not be able to anchor and would remain uninterpreted. It must be noted that under a standard assumption in the process of a feature trying to spread to a missing node, Lar in our case, the node is created to host the spreading feature. The analysis proposed below aims at excluding this possibility. Besides the obvious advantages of including a feature geometry in the model of sound make-up (it specifies the natural classes of features and mutually exclusive features), its great disadvantage is that it increases the generative power of the theory excessively: nodes function as additional features, they, for example, make representable a three-way laryngeal opposition in obstruents, as shown in (2).

(2) Three-way laryngeal opposition in obstruents

```
a. C      b.  C       c.  C
              |           |
             Lar         Lar
                          |
                          L
```

The consonant in (2a) has no laryngeal node at all,[7] the one in (2b) has one without anything linking to it, while that in (2c) has an **L** element in addition.[8] Natural languages do not provide evidence for all three types.

Even if we discard feature geometry as too strong a device, features must have some kind of segment internal organization in order to exclude the possibility of **L** spreading to sonorants. To cure the problem of doubly encoding the sonority–obstruency opposition in the representation (once by a feature like [sonorant] or [obstruent] or [±sonorant] and also by the presence and absence of the Lar node), I propose a structure in which there are no nodes but certain features can only link to the skeleton via others. This solution exploits the idea that nodes are in fact features. Putting aside the details still waiting to be elaborated, we may hypothesize that **L** can only be involved in the make-up of a segment via the mediation of the element **h**, whose salient property is [noise] and which is present in obstruents, that

[7] We have supposed above that only obstruents have a laryngeal node. This is not contradicted here, because (i) the claim does not strictly follow from anything, it is just a stipulation that seems to hold of (many) languages and (ii) it has not been said that all obstruents necessarily have a laryngeal node.

[8] The fourth logical possibility, an **L** element without a Lar node is impossible if that element can only link to the Lar node.

is, it is more or less the equivalent of the binary feature [−sonorant].[9] This means that it is only noisy segments, obstruents that can be distinguished by voicing. The representations in (3) show a partial structure of sonorants (3a), voiceless (3b) and voiced obstruents (3c).

(3) Representation of manners of articulation

```
a. C      b. C      c. C
             |         |
             h         h
                       |
                       L
```

One might say that we could keep the representations in (2) and iterpret them exactly like those in (3). While this is possible, the representations in (3) have definite advantages over those in (2): (i) they do not contain any new element other than the usual elements, which are indispensable anyway, whereas in (2) both **h** (or its equivalent, like [−sonorant]) and a Lar node is needed, (ii) they give a nonarbitrary explanation for why only obstruents exhibit voicing oppositions and (iii) they make the creation of a docking site for the spreading **L** element unfeasible: while a Lar node may have been created, one cannot insert an element (**h**) for the same reason.

The standard explanation for the apparent spreading of voicelessness (e.g., *do*[ps]*oló*) in frameworks that only employ a unary [voiced] feature (or **L** element, if you like) is that certain prosodic positions are unable to license certain features or can do so only by external help. The traditional coda position—most types of non-prevocalic consonantal positions, to give a safer formulation—typically has a weak licensing power, which is not enough in itself to license **L**. As a result the configuration in (4) is deemed ungrammatical.

(4) Devoicing

```
*C1   C2        C1   C2
 |    |         |    |
 h    h    →    h    h
 |              ‡
 L              L
```

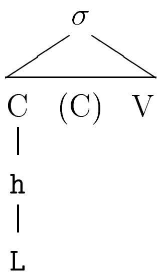
There are two possibilities for the amendment of this universally ill-formed structure: either the second consonant licenses the element **L** for the first (this is called progressive voicing assimilation) or **L** must be delinked from the first, too (this is regressive voicing assimilation). So what seems to be the spreading of voicelessness in fact stems from a restriction on the appearance of voicing. The careful reader will have noticed that both consonants of the ungrammatical cluster contain the element **h**. This is understandable in the case of the first consonant, since it is only through this feature that **L** can link to the skeleton in the

[9] There is some uncertainty here whether obstruents are more or less marked than sonorants, since, recall, each element (like all unary features) are supposed to represent the marked value of an opposition. I am, nevertheless, going to follow Harris (1990 : 263) in assuming that obstruents contain this element.

first place. If the second consonant does not contain **h**, however, there is nothing wrong with the structure, cf. *ablak* 'window', *abrak* 'fodder'. The problem here is that even if we hypothesized that the head of a branching onset is immune to this process as Lombardi (1995a, b) does, for independent reasons clusters like *bl* and *br* are not considered branching onsets in Hungarian, but as two successive onsets with an intervening empty nucleus or a coda followed by an onset if, unlike GP, the theory applied allows for that option in the case of such clusters. Whichever holds, the cluster *bl* is not different in respect of its prosodic structure from clusters like *bs*, where the first obstruent must devoice. This can only come about if **h** is included in the ungrammatical configuration, which in this way becomes very suspicious as if it made an implicit reference to the absence of the feature **L** in the second consonant. Of course, including **L** in the representation of nonobstruents would not be of any help as voiceless obstruents, which should then become voiced, are just as happy to stand before nonobstruents, cf. *paplan* 'quilt', *apró* 'tiny'.

An alternative approach, alluded to above, to formulate the sites where voiced obstruents may possibly appear is the positive constraint offered by Lombardi, which does not state where a consonant cannot be voiced, but where it can (1995a: 43). I give the essence of Lombardi's diagramme in the present framework, not its exact replica, in (5).

(5) Positive constraint on voicing



According to this constraint voiced obstruents may only appear at the beginning of a syllable, before a vowel. Optionally there may be a sonorant between the obstruent and the vowel. If we want to condition the appearance of **L** by syllable structure, we have to have a clear picture of what syllables look like. There are three competing views about the status of word-final consonants, the prime site targeted by voice assimilation: (i) they are in coda position, (ii) they are extrasyllabic, in an appendix or something similar, (iii) they are onsets followed by an empty nucleus. The second option complicates the formulation of rules rather unnecessarily as it needs mention of what can occur in appendices as well as in codas and onsets. If we adopt view (i) (which is what Lombardi does) the constraint will predict word-final devoicing, which does not occur. Lombardi posits an additional site where laryngeal distinctions may be maintained: $\mathrm{Lar}]_{\mathrm{W}}$ (1995a: 66). But even that fails because the voice contrast of obstruents in non-word-final non-syllable-initial position is maintained, e.g., *ha*[ɟ]*ma* 'onion', *fi*[c]*ma* 'prepuce'. Adopting alternative (iii) will again be problematic, since its prediction will be that any word-final obstruent can maintain its voicing, which again is false: word final obstruents cannot be voiced if they are followed by a voiceless obstruent at the beginning of the next word or suffix. This renders the positive constraint untenable.[10]

[10] See Siptár 1997 for a different and more detailed criticism.

All in all, despite the problems with the formulation of devoicing in (4) — recall that it apparently makes an implicit reference to the absence of **L** — there seems to be no better solution for the time being, therefore I am going to adhere to it.

One of the consequences of using unary features in phonological representations is that the markedness of segments can be read off their make-ups. If a feature stands for the marked value of a given opposition then the more features a segment consists of, the more marked it is. The opposite is also true: the less marked a segment, the less features it contains. The conclusion is that a very unmarked segment may be made up of a single feature, which means that this feature is equivalent to the segment. Phonological features thus cease to be abstract entities, instead we can say that there exist simplex segments (which were traditionally called features) and by their composition we get more complex segments.[11] As we have seen, this is the basic stance of GP (cf. especially Harris & Lindsey 1995), but it is often not taken very seriously (for example, in the case of the two laryngeal elements, **L** and **H**).

In order to model [h] phonologically we must first take its phonetic characteristics into account. The version of this segment which turns up prevocalically is not an obstruent, [h] lacks the aperiodic noise that characterizes nonsonorants. Still many authors (Vago, Siptár, Kornai, Zsigri of those cited above) specify Hungarian [h] as [−sonorant]. Chomsky & Halle (1968 : 303) do say that [h] is a sonorant, but this is somewhat in contradiction with their definition of sonorants: sounds "in which spontaneous voicing is possible" (*op.cit.*: 302). This means that it does not have the **h** element.[12] We have seen in section 3 that sonorants are phonetically voiced in the unmarked case, [h] on the other hand is not. At this point there also arises the question of how voiceless sonorants can be represented if they do not have a laryngeal node, or an **h** element, according to my proposal. The representation of voiceless sounds includes **h** without **L** linked to it. The absence of both features (in sonorant consonants and vowels) is phonetically interpreted as (spontaneous) voicing. There are numerous arguments for claiming that voiceless sonorants are in fact aspirated (some of these are collected in Lombardi 1995b : 50ff).[13] Their representation thus contains the feature [aspirated] (GP's **H** element) in addition to those present in their normal, voiced pair. This also expresses that a voiceless sonorant is more marked than a voiced one, while with obstruents the situation is just the opposite (but see Harris). Consequently, **H** can be held responsible for the voicelessness of [h], too. Indeed, [h] probably does not have any

[11] Theoretically segments can be conceived of having no marked properties, that is, no features in their make-up. This means we must be able to interpret phonetically positions which contain no explicit phonological information other than prosodic structure.

[12] Interestingly, the standard assumption of GP is that **h** is [h], i.e., when alone in a segment the noise element is phonetically interpreted as [h]. Hence the symbol.

[13] The laryngeal opposition in obstruents, traditionally considered to be that of voiceless vs. voiced, can in some languages be interpreted as aspirated–unaspirated, cf. e.g., Harris 1994 : 133ff, Iverson & Salmons 1995.

other feature, since in respect of its place of articulation is it totally unmarked, debuccalized (cf. Lass 1984 : 133ff).[14]

Although it is standard practice, based probably on articulatory considerations, to link both **L** and **H**, or their equivalents, to the laryngeal node, the fact that **L** can only characterize obstruents while **H** can be present in sonorants as well argues against this. Translated to the framework elaborated here, this means that **L** links to the skeleton by the mediation of **h**, **H** on the other hand does not. Whether it links directly or via some other feature must be a subject of further investigation, but this is irrelevant for the purposes of this paper.

Returning for a moment to the odd behaviour of [v] mentioned in section 1, that it becomes assimilated but does not assimilate laryngeally, we find that treating it prevocalically as a sonorant and in coda position as an obstruent explains its nature. This is the essence of Siptár's (1996) solution. The technical details, however, are not very felicitous: a laryngeal node is added, out of nothing, to [v]'s in coda position, thereby making them obstruental and so capable of receiving the spreading laryngeal specification of the following obstruent. The details of the fortition mechanism thus appear to be uncertain[15] and even problematic given that codas are typically held to be weak and it is exactly there that strengthening occurs in this case. It is nevertheless intriguing that glides, the sonorant [v] and [h] in Hungarian, [j], [w], [h] and [r][16] in English, tend to avoid coda position altogether, while [l] often vocalizes here in both languages, that is, they prefer to turn up exclusively before vowels.

The idea explaining the strange behaviour of [v] can be applied to the distribution of [h] and [x] as well: prevocalically we find an approximant, while if it is not followed by a pronounced vowel its obstruent allophone surfaces. The analyses proposed so far have failed at this point: it is exactly the allophone which is supposed to be inert in voicing assimilation, the approximant [h] that devoices a preceding obstruent and [x], which as an obstruent is expected to participate in the process, fails to get voiced. In the model sketched here [x] is unique among obstruents in that its voicelessness is not (only) a result of its having **h** without

[14] Kornai (1994 : 25) represents [h] as an aspirated obstruent, in Szigetvari 1996 I argue for [h] being the independent realization of **H**.

[15] There have been attempts made at deriving manner of articulation from syllabic position (e.g., Jensen 1994, Rennison 1996). Accordingly we could say that the same melodic material is interpreted as a sonorant in onset and as an obstruent in coda position. On the other hand, if obstruency is a function of syllabic position and not of explicit features then we cannot distinguish coda segments according to whether they are affected by voicing assimilation or not.

[16] Harris argues for postvocalic [r]'s being in the nucleus not in the coda (1994 : 257ff), so this is true even for rhotic accents of English.

L hanging from it but the **H** feature it "inherits" from [h].[17] This element is what inhibits the voicing of the obstruent: **H** and **L** are incompatible in Hungarian. This is something of a stipulation but it is needed in the grammar anyway since there are no voiced aspirates in the langauge. It is also useful at this point to presume that **H** is not joined to the skeleton via **h** (or the laryngeal node), since if it were the **L** spreading backwards could have the chance to delink it. The situation is depicted in (6).

(6) [x]+voiced obstruent cluster

```
 H
 |
 C1    C2
 |     |
(h)    h
       |
       L
```

In the diagram above the **h** element of the first consonant is between parentheses because I did not take a stand on whether this feature is explicitly there in [x] or noise in it only comes form it being in coda position. In the latter case the impossibility of **L**-spreading is obvious: in the absence of **h** there is nothing for it to anchor to, like in any other sonorant. This, however, would ruin the explanation for the devoicing of coda [v]. Therefore it seems better to include **h** in the representation of [x] and refer to the incompatibility of **H** and **L**.

A further piece of evidence that supports this analysis comes from Russian. Regressive voicing assimilation in this language works much the same way as in Hungarian (with the additional process of word-final devoicing), it involves obstruents, [v] exceptionally does not voice but gets devoiced, but the two langauges diverge in the case of [x], which does get voiced in Russian. The crucial point is that Russian has underlying [x], which does not alternate with [h] in any environment. Therefore we may assume that it does not "inherit" the an **H** element, and although **H** and **L** are incompatible in Russian, too, **L** can spread on the **H**-less [x] resulting in [ɣ].

I have made an attempt to answer the question posed in the title. This, however, cannot be fully successful until an explanation is found for the other half of the odd behaviour [h] displays in voicing assimilation. In the light of what has been said so far it is not clear why a voiced obstruent is devoiced before [h]. The situation is shown in (7) below.

[17] There are phenomena that point towards representing the voiceless–voiced opposition in all fricatives by the feature **H** instead of **L**. One is the general lenition process in which stops rarely, while fricatives usually become [h] (Lass 1984 : 334). Phonetic facts also support this idea: in the articulation of voiceless fricatives the opening between the vocal folds is significantly wider than in the case of voiceless stops (Iverson & Salmons 1995 : 372). This undermines the thesis of this paper, but proving that it is so in Hungarian is a task for future inquiry.

(7) Voiced obstruent+[h] cluster

```
        H
        |
C1      C2
|
h
|
L
```

Like other **h**-less sonorants, [h] should not influence the laryngeal specification of the preceding voiced obstruent in any way. We may suspect that the incompatibility of **H** and **L** has its role to play in this case as well. In languages that do not ban the cooccurrence of these two features in a segment, **H** spreads backwards and instead of devoicing the preceding obstruent it creates a voiced aspirate with it (cf. e.g., Sanskrit /tad/+/ha/ → [tad^{h}ːa]). Unfortunately, Sanskrit does not have a [h] that would surface preconsonantally, therefore the prediction that it would get voiced cannot be ascertained.

Zsigri mentions that in a Northern dialect of Hungarian (spoken around Nitra/Nyitra, Slovakia) [h] fails to devoice the preceding voiced obstruent (1996 : 279). The explanation he gives is that this dialect has underlying voiced [ɦ], a result of the influence of Slovakian. Likely as this may seem, it brings up another very problematic phenomenon for the analysis presented: Czech and Slovak both have a voiced [ɦ], which the machinery introduced here is unable to cope with (also Tobias Scheer p.c.). It is somewhat comforting to know that [h] and [ɦ] contrast exceedingly rarely in languages (Ladefoged & Maddieson 1996 : 326), still if one aims at the universality of phonetic interpretation the representations of these two sounds cannot be merged.

Using a framework of unary features I have tried to give an explanation for why voiced obstruents do not make the preceding [h] (or more exactly [x]) voiced. In doing this there emerged phonological evidence against the standard assumption that the two "laryngeal" features, [aspirated] (**H**) and [voiced] (**L**) are hosted by the same node in the feature geometrical tree. We also had to dismiss the idea of regulating the occurrence of voicing in obstruents by a positive constraint making reference to syllable structure, and it also seemed more useful to use other traditional features instead of the more abstract class nodes of standard feature geometry. I claimed that [x] fails to get voiced in Hungarian when followed by a voiced obstruent because it is aspirated, and aspiration and voicing are incompatible in this language.[18] On the other hand, we did not arrive at a satisfactory explanation for how [h] devoices the preceding voiced obstruents and also there are problems with the representation of underlying voiced [ɦ] of the Czech and Slovak type.

[18] Upon seeing the title of this paper, a non-phonologist colleague of mine said he knows the answer to the question why [h] does not get voiced: because it sounds stupid. He was right.

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