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Glide strengthening

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In Olsson 1989:135 f., I accounted for the fact that glides prevent (intermorphemic) epenthetic vowels from showing up to their immediate left, while allowing them on their immediate right, by a rule which makes glides condition epenthesis when preceding any consonant at a morpheme boundary. The parallel asymmetry with *v* in voicing assimilation was incorporated into the rule. In this squib, the background to the glide rule will be given, with explicitly mentioned examples and some prior accounts of the problems with the glides. Only the original solution, without rule features, will be presented.

In Standard Hungarian voicing assimilation, *v* only participates passively. Preconsonantally, *v* belongs to the obstruent class and is devoiced if the following consonant is voiceless (and thus an obstruent), but *v* cannot voice a preceding obstruent. In *szívtelen* 'heartless' and *hatvan* 'sixty', the medial consonant sequences are thus pronounced as *ft* and *tv*, respectively. Barkaï and Horvath 1978, who say that the same ambiguity in *v* as regards voicing assimilation exists in Hebrew and Russian, assume that a sonority hierarchy solves the problem with *v*. They also make use of the sonority hierarchy to solve the problem with Hebrew vowel epenthesis in root-final consonant clusters, where final *v* behaves in the same way as obstruents. In Hebrew, epenthesis only takes place in a final consonant cluster when the final consonant is an obstruent - we thus have *hajden* < *Haydn* and *sarter* < *Sartre*, but *mozart*, *zift*, *ford*, *serv*. The last example implies that *v* here works as an obstruent. Another conceivable solution, which would obviate the problem (but one that decisive examples may overrun), would be that a final sequence of obstruent + sonorant is necessary for epenthesis to take place. Bolozky 1978 states the more general fact that in Hebrew a sonorant must be in direct contact with a vowel (thus, forms like Greek *Mnemosyne*, Slavic *Mladen* and possibly Swedish *vrida* 'to wring' are not possible forms in Hebrew). By making use of the sonority scale, Barkaï and Horvath succeed in eliminating a rather limited sonorization rule for *v* and, in addition, get rid of the extrinsic order. But of the four references to the sonority scale (in the voicing assimilation rule and the Hebrew epenthesis rule)

one (m ≥ 1 = ≤ 7) covers all consonants (is thus redundant), another (n ≥ 4) refers to excluding sonorants, while yet another (m ≤ 3) refers to including obstruents (I refer to a group which in a certain position agrees with *v* in its reaction to a certain process as *including*). The fourth reference (n ≤ 2), finally, stands for excluding obstruents. The formalism rather obscures the generalization that *v* belongs to the obstruents preconsonantally, but acts as a sonorant elsewhere. The algebraic denominations, moreover, make reading the rule difficult by not instantly relating to a positive or negative value for the parameter voice.

Vago 1980 represents a more traditional account, as he does not notice - it seems - the similarity between the glides and *v* regarding the two rules in Hungarian. In a note concerning his epenthesis rules (87 f., note 5), he says that he does not take any stand as to whether the symbol C in the description means [-syll] or [+cons]. He explains, however, that the evidence suggests the following state: In environment $(C)_a\ C_b$ __ $C_c\ (C)_d$, C_c is interpreted as [+cons], the others as [-syll]. The special position of *v* in voicing assimilation is taken care of by positing obstruents and *v* as the inputs for his rule (35), which makes it look hardly natural:

(1) Voicing assimilation

$$\left\{ \begin{bmatrix} \text{-son} \\ \text{+cons} \\ \text{-cor} \\ \text{+cont} \end{bmatrix} \right\} \longrightarrow [\alpha\text{voi}] / \_\_ (\#) \begin{bmatrix} \text{-son} \\ \alpha\text{voi} \end{bmatrix}$$

(Obstruents and /v/ are assimilated to a following obstruent in voicing.)

The sonority model means an improvement over the traditional account, as it makes it possible to perceive the similarity between epenthesis and voicing assimilation in regard to glides and *v*. Voicing assimilation, the Hebrew epenthesis and the Hungarian epenthesis are all - however - more rewardingly explained by regarding preconsonantal *v*, *j* and *h* as articulatorily stronger than the same segments in postconsonantal position. This solution is satisfactory, at least for Hungarian. Investigating the instances where the glides trigger (+) or hinder (-) voicing assimilation and epenthesis in the positions before and after another consonant, respectively, gives the following scheme:

(2) Reactions to rules in a sequence of glide plus consonant

	voicing assimilation	epenthesis
vC	+	+
hC	/	+
jC	-	+
Cv	-	-
Ch	+	-
Cj	-	-

Regarding the sequence hC it may be noticed that the underlying *h* disappears in the derivation before a consonant, which makes the question of voicing assimilation undecidable. Examples are e.g. *a juhból* [(Ø)b] 'out of the sheep' and *a juhtól* [(Ø)t] 'from the sheep'.

The values are motivated by the examples in the following scheme (both voicing assimilation and epenthesis take place over a morpheme-boundary and therefore intermorphemic examples have been chosen, but the voicing assimilation rule also crosses word-boundaries):

(3) Examples of reaction disposition in the sequences

	voicing assimilation	epenthesis
vC	szív+telen [ft] heartless	szív-e-m my heart
hC	/	juh-o-m my sheep
jC	baj+talan+ul [jt] without worry	máj-a-k liver, pl.
Cv	hat+van [tv] sixty	oszt+va dividing (verbal adverb)
Ch	dob+hat [ph] throw away, pot.	oszt+hat divide, pot.
Cj	lop+ja [pj] steal, 3 sg. det.	áld+ja bless, 3 sg. det.

Verbal stems with a single final consonant take an epenthetic vowel relatively seldom, while verbal stems with a final consonant cluster only require one following consonant to trigger epenthesis (see e.g. Olsson 1987 a). As the examples show, epenthesis does not take place in the latter case if *j*, *v* or *h* follow. This could be taken to imply that all glides acquire a consonantal status (at least phonologically) in preconsonantal position.

The segments that participate in the voicing assimilation are characterized by their obstruent specification. The reason why a morpheme initial *h* devoices voiced obstruents would then be that it constitutes part of the obstruent class, just like all the other voiceless segments.

The transformation of glides into consonants parallels by and large the change of *v* into an obstruent. It is reasonable to assume that the partly identical conditions for glides in the two rules (having the same context and being subject to similar changes) make possible and probable that the glide changes be generalized into a single rule, which can be written as follows:

(4) Glide strengthening

$$\begin{bmatrix} \text{-cons} \\ \text{-voc} \\ \text{<+ant>} \end{bmatrix} \longrightarrow \begin{bmatrix} \text{+cons} \\ \text{<-son>} \end{bmatrix} \; / \_\_ \; \begin{bmatrix} \text{-syll} \\ \text{<-son>} \end{bmatrix}$$

(Glides become consonantal before non-syllabic segments and, similarly, *v* becomes an obstruent before an obstruent.)

The context has to be specified as [-syll] and not as [+cons] because *h* - termed [-cons] - devoices a preceding *v*, e.g: *a szívhëz* [fh] 'to the heart'. Slightly changing the context into [-cons] ___ would make the rule seem more elegant (involving no instance of [cons] and three instances of [syll]), but of course this solution (like every solution involving a preceding vowel as the determining factor) falls short of embracing all relevant examples - as is evidenced by e.g. *szërv+k szërvek* '(bodily / administrative) organs'. As I have in several earlier papers (first Olsson 1987 b) defined pause as a unit with negative value for all features and one which has to be marked [-segment] (thereof follow all other negative specifications), (4) also implies that glides are consonantal and *v* an obstruent in word-final position. Consonants are not devoiced in this position in connection with Hungarian voicing assimilation, but the context is apparently marked here as [+segment]. Russian devoicing in word-final position may on the other hand be regarded as part of a voicing assimilation rule where the change indicating context is not specified as to segmentality (cf. Halle 1959:64 who, however, thinks that there are two processes in Russian - one consonant final devoicing rule - P 2 - and one separate voicing assimilation rule - P 3a).

The rule proposed here is very general, although - as argued in Olsson 1989:135 f. - it seems to be less probable phonetically than the rule feature solution and also would make another rule less general. Nevertheless, it is still a viable alternative, especially - it is believed - as a general tendency for glides. It is notoriously difficult to make glides harmonize with the concept of natural classes according to the traditional Western dichotomization - thus, a) rule (4) apparently does not work for Hebrew epenthesis, b) is less general than the actual facts in some dialects of Hungarian imply regarding voicing assimilation (Olsson 1989) and c) seems to be obligatory or optional, but in fast speech often is unnecessary altogether in Hebrew voicing assimilation (Bolozky 1978). In all three cases the problem arises not because the rule is contradicted, but because *v* functions here like the other obstruents in all positions.

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