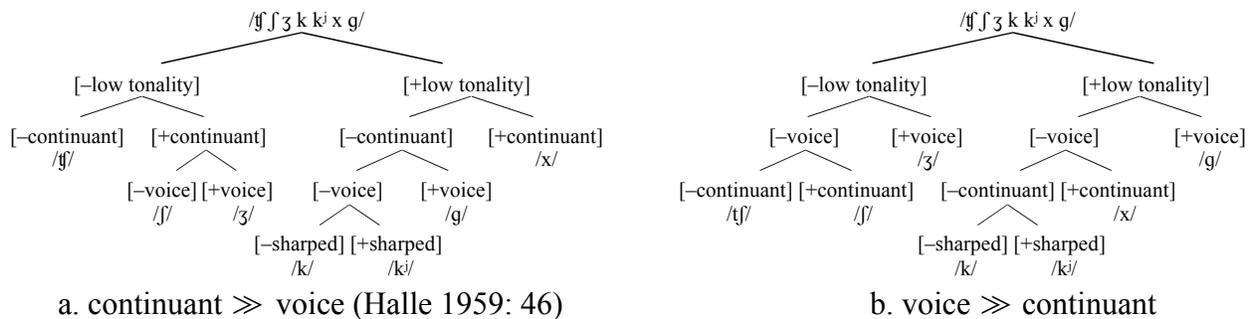# Halle's *Sound Pattern of Russian*: The Road Not Taken

Halle's *Sound Pattern of Russian* (1959) sits at a major fork in the road in the development of phonological theory. Central to the path taken by Halle is his branching tree showing the contrastive features assigned to every (morpho-)phoneme of Russian. A portion of this tree is reproduced in Figure 1a: /tʃ/ and /x/ have no voiced counterparts */dʒ/ and */ɣ/, and are unspecified for [voice]. As Halle pointed out, these segments (as well as /ts/) both trigger and undergo Russian regressive voicing assimilation (RVA), just like other 'paired' consonants. These facts argued against the structuralist phoneme, because RVA would have to apply in the morpho-phonemic component, converting morpho-phonemes (e.g., //ʃ//) into phonemes (/ʒ/), and then again in the component that converts phonemes (/x/) into allophones ([ɣ]). This analysis was also inconsistent with the notion that contrastive features are special: in Halle's analysis, [–voice] must be filled in on /ts, tʃ, x/ by a rule that applies before RVA.

Figure 1: Two possible contrastive hierarchies for Russian palatal and velar obstruents

/ʦ ʃ ʒ k kʲ x g/
[–low tonality] [+low tonality]
[–continuant] /ʦ/ [+continuant] [–continuant] [+continuant] /x/
[–voice] /ʃ/ [+voice] /ʒ/ [–voice] [+voice] /g/
[–sharped] /k/ [+sharped] /kʲ/

a. continuant ≫ voice (Halle 1959: 46)

/ʦ ʃ ʒ k kʲ x g/
[–low tonality] [+low tonality]
[–voice] [+voice] /ʒ/ [–voice] [+voice] /g/
[–continuant] /ʧ/ [+continuant] /ʃ/ [–continuant] [+continuant] /x/
[–sharped] /k/ [+sharped] /kʲ/

b. voice ≫ continuant

However, Halle could have taken a different path. He could have reasoned that RVA indicates that /ts, tʃ, x/ *are* underlyingly specified as [–voice], which could be done by changing the order of the features. Figure 1b shows what happens if [voice] is given scope over [continuant]: /ts, tʃ, x/ are now [–voice], but /ʒ/ and /g/ are unspecified for [continuant] (there being no */dʒ, ɣ/). Strikingly, this revised hierarchy produces good results. In some varieties of Russian, /g/ is realized phonetically as [ɣ] or [ɦ], consistent with (though not entailing) it being unspecified for [±continuant]. In morphophonological velar–palatal alternations, underlying continuancy is preserved in the pairs /x/~/ʃ/ and /k/~/tʃ/, but /g/ alternates with /ʒ/, as in the positive/comparative pairs in (1) and the 3PL/3SG pairs in (2) (Lightner 1965):

(1) a. tʲi**x**-ij   tʲi**ʃ**-e   'quiet(er)'   (2) a. ma**x**-ut   ma**ʃ**-et   'wave(s)'
    b. ʒar**k**-ij   ʒar**ʧ**-e   'hot(ter)'   b. pe**k**-ut   pe**ʧ**-et   'bake(s)'
    c. doro**g**-oj doro**ʒ**-e 'dear(er)'   c. stri**g**-ut stri**ʒ**-et 'shear(s)'

These considerations thus reveal another path illuminated by Halle's famous argument, one that was not taken at the time: following this road, only contrastive specifications can be computed by the phonology (Hall 2007; Dresher 2009), and language-particular contrasts and feature hierarchies are central aspects of phonological representation. And that makes all the difference.

Dresher, B. E. 2009. *The Contrastive Hierarchy in Phonology*. Cambridge: CUP.

Hall, D. C. 2007. The Role and Representation of Contrast in Phonological Theory. PhD thesis, University of Toronto.

Halle, M. 1959. *The Sound Pattern of Russian*. The Hague: Mouton.

Lightner, T. 1965. Segmental Phonology of Modern Standard Russian. Phd thesis, MIT.