How does /s/ pattern in this diachronic and dialectal variation?

Korean obstruents

<table>
<thead>
<tr>
<th></th>
<th>Fortis</th>
<th>Lenis</th>
<th>Aspirated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stops</td>
<td>/p t k’/</td>
<td>/p t k/</td>
<td>/pʰ tʰ k’/</td>
</tr>
<tr>
<td>Affricates</td>
<td>/ʃ/</td>
<td>/ʃ/</td>
<td>/ʃ’/</td>
</tr>
<tr>
<td>Fricatives</td>
<td>/ʃ/</td>
<td>/ʃ/</td>
<td>/ʃ/</td>
</tr>
</tbody>
</table>

Intervocalic voicing

- Most studies report a long aspiration (in low vowel contexts), ambiguous between lenis and aspirated stops.
- Phonologization of tone following /s/:
  - As word-initial tonal contrasts develop in Korean, dialects make different choices for the ambiguous /s/: Phyeongan-L, Seoul-H
  - More categorical tonal distinction in female than in male speech.
  - Given the similar patterning of intervocalic /s/ across dialects, this dialectal difference does not seem to follow from inherent difference in articulation of /s/; nor does it follow from the VOT characteristics (cf. Kingston 2011 on Athabaskan).

Phyogeography of /s/

- Most studies report a high f0 on the vowel following initial /s/, comparable to or slightly higher than /s’/.
- But, a much lower f0 (close to that of lenis obstruents) is reported for some speakers of Jeju dialect (Cho et al. 2002).

Intercategorical voicing

- Glottal opening gesture inhibits voicing of /s/ but the glottal opening is significantly reduced in intervocalic position compared to initial position.
- Conflicting evidence: reported rates of voicing vary from 20~50%.

Phyogeography in China

- A North Korean dialect as spoken by ethnic Koreans in Dandong, China.
- Retains a VOT pattern of stops similar to that reported for Seoul Korean in the 1960s (cf. Kim 1965, Lisker and Abramson 1967).

Supported by SSHRC #410-2011-1008 to Yoonjung Kang. Thanks to Mary Parayno, Gowoon Snover, Wu Shengai and the department of Linguistics at Seoul National University and to the audience at McGill, Carleton, and CLA 2015 for comments and suggestions.

Phonetic ambiguity of plain voiceless fricatives

- Due to the aerodynamic requirement of frication, plain voiceless fricatives tend to be produced with a wide-open glottis (Stevens and Keyser 2001, Kingston 2011).
- Voiceless fricatives often pattern with aspirated obstruents phonologically (cf. Vaux’s law, Vaux 1998).
- The ambiguous intervocalic voicing (consistent across all dialects) is in accord with Iverson (1983)’s suggestion that /s/ is [spread] (like aspirated plosives) but not [stiff] (unlike aspirated plosives).