

## POLISH FRICATIVES

Polish is interesting for exhibiting a rather different range of sibilant fricatives than is found in English or German. It also shows that it is not always easy to decide on the best description of sounds. In particular, two of the three place of articulation categories illustrated below share the post-alveolar place of articulation, but differ substantially in the shape of the tongue.

### Notes on the 3 places of articulation (from left to right in the table)

#### 1. Alveolar (dental?)

This category is referred to as *alveolar* in V&C, but as *dental* in L&M (and is transcribed accordingly). L&M base their interpretation on a radiographic study indicating that these sounds are articulated further forward than English [s].

#### 2. Flat postalveolar (retroflex)

This category is often referred to as *retroflex*, but both V&C and L&M indicate that this term is misleading. Polish clearly does not have the kind of retroflexion found in many Dravidian and Indo-Aryan languages. For these (and other) languages, L&M find it useful to distinguish between two kinds of retroflexion:

- 1) *apico-postalveolar* (“light” retroflexion; indicated with a subscript dot diacritic which is not part of the standard IPA inventory)
- 2) *subapico (or sublaminal) palatal* (“strong” retroflexion)

Polish differs from these since it is postalveolar, but laminal. This raises the question of how it is distinguished from e.g English [ʃ], which can also be described as laminal postalveolar. The important

difference seems to be that the tongue is flat in Polish, rather than being domed towards the palate as in [ʃ]. The retraction of the tongue away from the teeth, and the presence of lip-rounding, both help to strengthen low-frequency emphasis in the signal.

For this sound V&C uses the retroflex symbol. L&M use the alveolar symbol with the non-standard subscript dot (e.g [ʂ]), while explicitly labelling it *flat postalveolar* (in the table below we have used the standard retroflex symbol).

### **3. Palatalized postalveolar (alveolo-palatal)**

The second postalveolar category is given the traditional label *alveolopalatal* in V&C.

This sound (and label) has attracted a lot of debate in the IPA. (A similar sound may occur in the fricative portion of some pronunciations of the affricate in English words like ‘tune’.) The label is not a very happy one, especially now that the palato-alveolar label used in older version of the IPA chart is referred to as postalveolar. (Catford argues that the ‘o’-prefixes should be reserved for articulatory organ (as in “apico-postalveolar” above) rather than for modifying place of articulation.) The sound now has an awkward existence outside the main IPA table in the rag-bag section headed “Other Symbols”.

Seen in this light, the designation used in L&M makes a lot of sense: *palatalized postalveolar*.

This makes clear that the salient feature of the articulation is a basically postalveolar place of articulation, but with strong raising of the tongue dorsum towards the hard palate.

## References:

Vowels & Consonants (=V&C), p.151/2

Sounds of the World's Languages (=L&M), p.154/5 (with sketches of tongue shape)

## Further material:

**Mandarin Chinese has a fairly similar set of 3 sibilants.** See L&M, p. 150-154, with sketches of tongue shape and palatograms. See SoWL demo.

Toda has 4 sibilants. See SoWL demo.

Various demos with more “classical” retroflex articulations, e.g. **Malayalam, Hindhi, Sindhi**

## Note on the sonagrams:

For unknown reasons the input signal is band-limited to 5kHz. The frication noise, especially for the alveolars, would normally extend to higher frequencies.

## Example from SoWL

	Alveolar (dental?)	Flat postalveolar (retroflex)	Palatalized postalveolar (alveolopalatal)
Voiceless initial	<b>s a l i</b> ▶ “room (gen.)”	<b>ʃ a l i</b> ▶ “scale (gen.)”	<b>ç a l i</b> ▶ “sown”
Voiced initial	<b>z a l ε f</b> ▶ “bay”	<b>ʒ a l i</b> ▶ “complains”	<b>ʒ a l i</b> ▶ “grasped”
Voiceless medial	<b>k a s a</b> ▶ “case”	<b>k a ʃ a</b> ▶ “groats”	<b>k a ç a ʃ</b> ▶ “burglar”
Voiced medial	<b>s k a z a</b> ▶ “flaw”	<b>g a ʒ a</b> ▶ “gauze”	<b>k a ʒ a</b> ▶ “name (gen.)”

# Example recorded at IPSK, Munich

	Alveolar (dental?)	Flat postalveolar (retroflex)	Palatalized postalveolar (alveolopalatal)
Voiceless initial	<b>s a l i</b> ▶ “room (gen.)”	<b>ʃ a l i</b> ▶ “scale (gen.)”	<b>ç a l i</b> ▶ “sown”
Voiced initial	<b>z a l ε f</b> ▶ “bay”	<b>ʒ a l i</b> ▶ “complains”	<b>ʒ a l i</b> ▶ “grasped”
Voiceless medial	<b>k a s a</b> ▶ “case”	<b>k a ʃ a</b> ▶ “groats”	<b>k a ç a ʃ</b> ▶ “burglar”
Voiced medial	<b>s k a z a</b> ▶ “flaw”	<b>g a ʒ a</b> ▶ “gauze”	<b>k a ʒ a</b> ▶ “name (gen.)”