

# Stop Features

Across languages there are six types of oral stops that are typically found. This handout shows the phonological features used to differentiate each of these sounds. You are already familiar with three of these: voiced stops, voiceless stops, and aspirated stops. We've also seen some of the other types in various data sets this semester. The chart below comes from Hall (2007). Note: just the bilabial symbols are shown in the column headings, but these features apply to these types of sounds regardless of their place of articulation. [spread] means spread glottis and [constricted] means constricted glottis.

	ptk	p <sup>h</sup> t <sup>h</sup> k <sup>h</sup>	p't'k'	bdg	b <sup>fi</sup> d <sup>fi</sup> g <sup>fi</sup>	ɸdɸ
[voice]	—	—	—	+	+	+
[spread]	—	+	—	—	+	—
[constricted]	—	—	+	—	—	+

- /ptk/ represent the voiceless (unaspirated) stops.
- /p<sup>h</sup>t<sup>h</sup>k<sup>h</sup>/ represent the (voiceless) aspirated stops.
- /p't'k'/ represent the ejectives.
- /bdg/ represent the voiced stops.
- /b<sup>fi</sup>d<sup>fi</sup>g<sup>fi</sup>/ represent the breathy voiced stops (also sometimes called aspirated voiced stops).
- /ɸdɸ/ represent the implosives.

Since all of these sounds can be considered to be a type of oral stop they all would have the same manner features (minimally [-sonorant,-continuant]). Notice that there are no sounds that are both [+spread] and [+constricted]. This is because it is impossible to simultaneously spread and constrict the glottis. For this reason, many people think these should be unary features. Fortunately, both Odden (2005) and Hayes (2011) represent both using binary features. So the chart above should work for the remainder of the course and not cause any confusion!

## References

- Hall, T. A. (2007). Segmental features. *The Cambridge handbook of phonology*, pages 311–334.
- Hayes, B. (2011). *Introductory phonology*, volume 32. John Wiley & Sons.
- Odden, D. (2005). *Introducing phonology*. Cambridge university press.