



### *Free variation*

We've already seen how English voiceless stops are aspirated at the beginning of words and unaspirated after s. Consider the following additional pronunciations:

<i>top</i>	t <sup>h</sup> ap	t <sup>h</sup> ap <sup>ʔ</sup>	<i>hot</i>	hat	hat <sup>ʔ</sup>	<i>dock</i>	k <sup>h</sup> lak	k <sup>h</sup> lak <sup>ʔ</sup>
<i>map</i>	mæp	mæp <sup>ʔ</sup>	<i>cat</i>	k <sup>h</sup> æt	k <sup>h</sup> æt <sup>ʔ</sup>	<i>sack</i>	sæk	sæk <sup>ʔ</sup>
<i>slope</i>	sloup	sloup <sup>ʔ</sup>	<i>boat</i>	bout	bout <sup>ʔ</sup>	<i>poke</i>	p <sup>h</sup> ouk	p <sup>h</sup> ouk <sup>ʔ</sup>
<i>cape</i>	k <sup>h</sup> ep	k <sup>h</sup> ep <sup>ʔ</sup>	<i>fate</i>	feit	feit <sup>ʔ</sup>	<i>make</i>	mæk	mæk <sup>ʔ</sup>

This is another type of allophonic variation we haven't covered yet. When different sounds occur in the same environment but do not distinguish meaning, they are in **free variation**. Typically the realization of the phoneme depends on external factors such as rate of speech, social setting, etc.

*Can you think of other examples of free variation?*