Natural classes

Distinctive features identify groups of segments \(\rightarrow\) natural segment classes:
- They play a role in phonological processes and constraints;
- They are capable of characterizing natural segment classes (see above).

Nasalization of vowels,
Devoicing of liquids and glides,
Aspiration of stop,s
etc.:

These processes do not apply to one sound: they apply to classes of sounds.

One of the major goals of phonology is to formulate general statements about sound patterns.

Natural classes: complete sets of sounds that share the same value for a feature or set of features.

Natural classes are language specific:

- English: \([p \ t \ k]\) -- these three sounds form a natural class.
- Persian: \([p \ t \ k \ q]\) -- there are four sounds in this natural class.

Study p. 43
The goal of characterizing natural classes:

Why not simply use the IPA labels – e.g., [+ stop], [+fricative], [+vowel], etc.?

We want to group sounds that undergo the *same phonological process*! There are natural classes that are broader than the IPA categories, e.g., the sounds that are defined with the feature [sonorant].

Study the examples on p. 74

A natural class is one in which the number of features that must be specified to define that class is *smaller* than the number of features required to distinguish any one of its members.

\[
p \quad t \quad k \quad \left\{ \begin{array}{c}
-\text{continuant} \\
-\text{voice}
\end{array} \right. \\

\]

\[
t \quad \left\{ \begin{array}{c}
-\text{continuant} \\
+\text{anterior} \\
+\text{coronal} \\
-\text{voice}
\end{array} \right.
\]