## PHONOLOGY (Continued)

## FEATURES

Is the segment the smallest unit of phonological analysis?

The segment is *not* the ultimate unit: *features* are the ultimate units of phonology that make up segments.

Features define *natural classes*:
↓
classes consist of sounds that share phonetic characteristics, and undergo the same processes (see above).

**DISTINCTIVE FEATURE**: a feature that signals the difference in meaning by changing its *plus* (+) or *minus* (-) value.

Example:  *tip*   [-voice]
              *dip*   [+voice]

Binary system:  a feature is either present or absent.
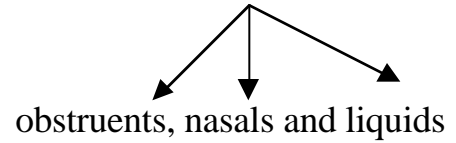
pluses and minuses:  instead of two separate labels, such as voiced and voiceless, we apply only one: [voice]

          [+voice]      voiced sounds
          [-voice]      voiceless sounds

## THE FEATURES OF ENGLISH:

    1.      Major class features

    2.      Laryngeal features

    3.      Place features

    4.      Dorsal features

    5.      Manner features

1.  **MAJOR CLASS FEATURES**: they distinguish between *consonants*, *glides,* and *vowels*.

obstruents, nasals and liquids

(Obstruents:  oral stops, fricatives and affricates)

[**consonantal**]:  sounds produced with a major obstruction in the oral tract

obstruents, liquids and nasals are          [+consonantal]

[**syllabic**]:    a feature that characterizes vowels and syllabic liquids and nasals

[**sonorant**]:  a feature that refers to the resonant quality of the sound.

vowels, glides, liquids and nasals are  [+sonorant]

STUDY *Table 3.30* on p. 89.

2. **LARYNGEAL FEATURES**:  they represent the states of the glottis.

[**voice**]        voiced sounds:       [+voice]
                    voiceless sounds:   [-voice]

[**spread glottis**]  ([SG]): this feature distinguishes between
                          aspirated and unaspirated consonants.

                    aspirated consonants:     [+SG]
                    unaspirated consonants:  [-SG]

[**constricted glottis**] ([CG]):  sounds made with the glottis closed.

glottal stop  [ʔ]:   [+CG]

2

3.     **PLACE FEATURES**:  they refer to the place of articulation.

   **[labial]**:      sounds that are articulated with one or both lips.

   bilabials

   labiodentals      } [+labial]

   **[round]**:  sounds that are articulated with lip protrusion.

   rounded vowels and the labiovelar glide are [+round]


NOTE:
[+round] sounds are also [+labial];   however, not all [+labial] sounds are [+round].
            e.g.,  *p, f*  can be articulated without lip rounding.


   **[coronal]**:  sounds that are articulated with the tongue tip or blade raised.

   dental, alveolar and alveopalatal sounds are [+coronal]

   **[anterior]**:  this feature refers to sounds articulated *at* or *in front* of the
                alveolar region.

   **[strident]**:   this feature refers to sounds that are articulated by directing the air
   toward the upper teeth;

   "noisy" fricatives and affricates are [+strident]

   | STUDY *Table 3.31* on p. 91. |


4.     **DORSAL FEATURES**:  features that represent placement of the body of
                        the tongue.

   **[high]**:  the body of the tongue is raised from neutral position.

   high vowels, palatal and velar consonants:  [+high]

   **[low]**:  the body of the tongue is lowered from neutral position.

   low vowels:  [+low]

**[back]**:  sounds articulated behind the palatal region in the oral cavity.

central and back vowels; velar consonants:  [+back]

**[tense]**:  distinguishes between tense and lax vowels

**[reduced]**:  distinguishes the schwa from [ʌ].

      [ə]:  [+reduced]


5.    **MANNER FEATURES**: features that represent manner of articulation.

    **[nasal]**:       a sound made with the velum lowered.

    **[continuant]**:  the airflow is not blocked in the centre of the oral cavity.

        fricatives, glides and the liquid [ɹ] are  [+continuant].

    NOTE:  the [l] is considered as [+continuant] in most of the phonological literature; however, in our textbook [l] is [-continuant].


    **[lateral]**:  the [l] is the only [+lateral] sound in English.


    **[delayed release]** ([DR]):  this feature refers to the slow release of the closure.

    affricates are  [+delayed release].


### DISTINCTIVE FEATURES AND NATURAL CLASSES


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*       *t*      *k*
$$\begin{bmatrix} -\text{continuant} \\ -\text{voice} \end{bmatrix}$$

$$t \qquad \begin{bmatrix} \text{-continuant} \\ \text{-voice} \\ \text{+anterior} \\ \text{+coronal} \end{bmatrix}$$

**FEATURE MATRIX**: an array of features that represents a segment.

Study *Tables 3.33* and *3.34* on pp. 95-96.

## REPRESENTATION OF THE FEATURE HIERARCHY

STUDY *Figure 3.18* on p. 97.