LINGUISTICS 221 **Lecture #3**

DISTINCTIVE FEATURES
Part 1.

An utterance is composed of a sequence of discrete segments.

Is the segment indivisible?

Is the segment the smallest unit of phonological analysis?

If it is, *segments ought to differ randomly from one another*.

Yet this is not true:

p t k *p r s*

What is the relationship between members of the two groups?

p t k

- the members of this set have an internal relationship:

they are all voiceles stops.

p r s

- no such relationship exists

p	*b*	*d*	*s*
bilabial stop voiceless	bilabial stop voiced	alveolar stop voiced	alveolar fricative voiceless

SIMILARITIES AND DIFFERENCES!

Segments may be viewed as composed of *sets of properties* rather than indivisible entities. We can show the relationship by listing the *properties* of each segment.

DISTINCTIVE FEATURES

- enable us to describe the segments in the world's languages: all segments in any language can be characterized in some unique combination of features
- identifies groups of segments → *natural segment classes*: they play a role in phonological processes and constraints
- distinctive features must be referred to in terms of phonetic -- articulatory or acoustic -- characteristics.

Requirements on distinctive feature systems (p. 66):

- they must be capable of characterizing natural segment classes
- they must be capable of describing all segmental contrasts in all languages
- they should be definable in phonetic terms

The features fulfill three functions:

a. They are capable of describing the segment: a *phonetic function*

b. They serve to differentiate lexical items: a *phonological function*

c. They define *natural segment classes*: i.e. those segments which as a group undergo similar phonological processes.

FEATURE VALUES:

a. Binary feature: the feature has either + or - value

Jakobson et al. (1952) introduced ***binarism*** for the features proposed.

In order to distinguish between meanings, what counts is either the presence or absence of a given feature.

[+voice]	[-voice]
*b*et	*p*et
z*e*al	s*e*al

Binarism, however, has remained a controversial issue, e.g. P. Ladefoged: *Preliminaries to Linguistic Phonetics*. Chicago: University of Chicago Press. 1971.

Gradual oppositions:

e.g. those found in vowel contrasts:

/i/ /e/ /ɛ/

or: voicing of stops could be put on a multivalued scale:

[d]: [3 voice] as in la*d*le where [d] is surrounded by voiced segments.

[d]: [2 voice] as in *d*eep where [d] is word-initial

[d]: [1 voice] as in lai*d* where [d] is word-final.

Multivalued features are no longer used: for example, the [*n* stress] indicating degrees of stress.

b. Univalent features: reference can only be made to a class of segments that *have* the value; the feature is not relevant to other segments that *do not have* the value.

For example: [LABIAL] refers to labial segments; this feature is not used to describe non-labial segments.

THE SPE SYSTEM OF DISTINCTIVE FEATURES: N. Chomsky & M. Halle.1968. *The Sound Pattern of English*. (SPE) -- the features presented below represent a *modified version* of the SPE system of distinctive features.

1. MAJOR CLASS FEATURES (Section 5.4.1)

Similarities and differences between consonants and vowels can be indicated by reference to properties relating to *syllabicity, sonority* and the *types of constriction.*

[± consonantal]

[± approximant]

[± sonorant]

	Obstruents	Vowels	Glides	Liquids	Nasals	Laryngeals
[consonantal]	+	-	-	+	+	-
[approx]	-	+	-	+	-	-
[sonorant]	-	+	+	+	+	-

Note: the feature [± syllabic] refers to
[+syllabic] = syllable peak position
[-syllabic] = non-syllabic segment
} SPE features (still much used)

2. LARYNGEAL FEATURES (Section 5.4.2)

[± spread glottis]

[± constricted glottis]

[± voice]

3. MANNER FEATURES (Section 5.4.3)

[± continuant]

[± nasal]

[± lateral]

[± delayed release] --- this is an SPE feature; it was used to distinguish between stops and affricates (the representation of this contrast is discussed in Chapter 12; in the meantime we are going to work with the [± delayed release] feature.

4. PLACE FEATURES (Section 5.5)

They specify where in the vocal tract modifications of the airstream take place:

- place of articulation of consonants
- tongue position of vowels

There are four univalent features specifying the major area of articulation:

[± labial]
[± coronal]
[± dorsal]
[± radical]

} a segment may or may not have the feature: not all consonant are specified for *all* the place features!

For example: If a consonant is not coronal, it will not be specified for the feature [coronal].

Important: *binary features* are used to indicate the place contrast within a major articulatory area:

[labial] -- labial segments can be specified as [± round]

[f] [+labial] [-round]

[p^w] [+labial] [+round]

[coronal] – coronal segments can be specified as [± anterior] and [± distributed]

[t] [+anterior]

[ʃ] [-anterior]

apical consonants are [- distr] for example, [t, d, n]

laminal consonants are [+ distr] for example: [ʃ] [t͡ʃ]

Note: dental consonants are also [+ distr] the blade is close to the alveolar ridge -- contributing to the acoustic effect!

Study Table (4)

[± strident] -- a feature is used to describe coronal fricatives and affricates, for example [ʃ, z, t͡ʃ] are [+ strident]

[dorsal] segments may be specified by *tongue body* features:

[±high]

[± low]

[± back]

[± tense]

[Retracted Tongue Root]
[Advanced Tongue Root]

} these three features never co-occur in the same language!

[± reduced] A dorsal feature characterizes only the [ə] in English. (The tongue body is at rest position).

[± radical] segments articulated with the root of the tongue

Study the examples in Tables (5), (6), (7), (8) and (9)
Study the Summary Table on p. 78

	Palatals	Velars	Uvulars	Glottals
[high]	+	+	-	-
[low]	-	-	+	-
[back]	-	+	+	-

5 PROSODIC FEATURES

[± long]

[± stress]