DISTINCTIVE FEATURES: data

1. General assumption: possibly the smallest number of features should be able to account for phonological generalizations (e.g. contrasts) in the world’s languages. Consequently, features are binary, i.e. appear in two values: plus and minus.

Example:
There is no need to introduce the feature [±front], because [±back] is sufficient: [−back] vowels are front, [+back] vowels are back. Central vowels appear to create a problem, which we will discuss later.

2. Features (simplified)

[±nasal]
[+nas] the airflow goes through the nose: nasal consonants and nasal vowels are [+nas].

[±lateral]
[+later]: the airflow goes on the sides of the tongue: l sounds are [+later].

[±obstruent] or [±sonorant] (same thing, but the value is reversed):
Obstruents are pronounced with obstruction in the vocal tract: closure = total obstruction (stops) or narrowing = partial obstruction (fricative).

Obstruents: stops, affricates and fricatives.

[±coron]
coronals are pronounced with the tip or the front part the tongue
[+coron]: interdentals, dentals, alveolars, postalveolars, palatoalveolars, and prepalatals (= alveolo-palatals). Other sounds (here: velars and labials) are [-coron].

[±anterior]
labials, labiodentals, interdentals, dentals, and alveolars are [+anter]. Other sounds (from postalveolar to velar) are [-anter].

[±continuant]
[−cont] are sounds during the production of which the air flow over the tongue is blocked for a moment.
[−cont]: stops, affricates, nasals and laterals.

[±strident], it is an acoustically defined feature; roughly [+strid] sounds are noisy sounds, compare, for example, [s] and [θ]: [s] is ‘noisy’ and hence [+strid] while [θ] is not noisy, hence [−strid].

(+strid): all affricates and some fricatives – [f v s z š ž ʃ ʒ ɕ ʑ]
[−strid]: interdental and velar fricatives, stops, nasals liquids [l r], semivowels and vowels
The other features for consonants are self-explanatory: [±voiced], [±cons], [±syllabic].

[±high]
  [+high]: the tongue is raised from the neutral position (the position for schwa)
  High vowels are [+high] while mid and low vowels are [-high].

[±low]: the tongue is lowered from the neutral position (the position for schwa)
  Low vowels are [+low] while mid and high vowels are [-high].

Questions: how are mid vowels classified in terms of features?

[±tense]: tense vowels are pronounced with tension of the tongue.
  [+tense]: upper high, upper mid, ‘backer’ low
  [-tense]: lower high, lower mid, ‘fronter’ low; [-tense] vowels are also called
  lax vowels.

[±round]: vowels pronounced with lip rounding are [+round]

[±back]
  Problem: where is the cutoff between [-back] vowels and [+back] vowels.
  The question is relevant for central vowels, for example, Polish [a] and [i]: are they
  [-back] or [+back]?

Exercise:

Define stops as a natural class = group stops together to the exclusion of all the other
underlying segments in a given language: