24.961 Features-1

[1]. requirements for a feature system

- express contrasts: if a pair of sounds [x] and [y] distinguish lexical items then
  there must be a feature F such that [x] and [y] have distinct values for [F].
  classificatory function (encode the vocabulary); categorial in nature
- indicate principal articulatory and acoustic correlates (For PSA acoustics primary,
  for SPE articulation is);

  [labial] ([flat]) is realized by lip protrusion in vowels and by lip constriction in
  consonants; distinct gestures that have similar acoustic effect: lower F2 (by
  lengthening cavity for vowels and longest front cavity in consonants);
      dental stops and high front vowels have similar acoustic structure: this
      explains the ubiquitous fronting of [u] after dentals (cf. Clements & Hume:
      front vowels as coronal)
- express natural classes of sounds that figure in phonological rules and constraints
- tension between first and third requirements: release never contrastive but may be
  crucial for various rules and constraints;
- Binary vs. n-ary: e.g. vowel height, tone
- Binary vs. privative: [nasal] or [±nasal]; [voice] or [±voice]
- Abstracts away from internal temporal structure: affricates, prenasalized stops

[2]. feature geometry

- Some features are refinements of others rather than freely combining: e.g.
  [±distributed] is a dependent of coronal; [strident] is a dependent of consonants
- Recurrent feature groupings in assimilation processes:

  spread place features of [high], [low], [back] but not nasality or tone:e.g.
  Mawu loans from French: brosse > [bɔ̀lɔ̀sî], France [fàlà̰zî];

  Mari (Vaysman '02) final vowel harmonizes for [back] and [round] but not
  [high], [low]: tam 'taste', tam-le 'sweet', ʃor 'mud', ʃor-lo 'dirty'; kü 'stone',
  kü-lö 'hard', lum 'snow', lum-lo 'snowy'

- Articulator model of Halle: any sound implemented by one of six major
  articulators; the articulators operate in one of three cavities; the shape of the
  constriction represented by root node features of [±cons, ±sonorant] and stricture
  features; each articulator implements certain terminal features:
- Segment is represented as some path through the tree;
- Key notion: dependency; order makes no difference
- Assimilation: complete vs. partial; single vs. multiple; feature-filling if
  underspecified; feature changing otherwise
- Examples:

assimilation for voice: plural bed-S, bet-S; RISD, NASDAQ, NASCAR, Frisbee, PATCO, Oslo, Tasmania

Biblical Hebrew [n] assimilation:

ka:ta:b	na:pal	na:tan	na:gaʃ
yi-ktob	yi-ppol	yi-tten	yi-ggaʃ
'write'	'fall'	'give'	'approach'

article: melek   hammelek 'king'
       9i:r   ha:9i:r   'city'

Partial:

Mahou: brosse > [bɔ̀lɔ̀sî], France [fàlà̰zî]

Mari: [round] and [back] but not [high], [low]

English coronal plosives:

	[t]	[d]	[n]	
___0	eighth	hundredth	tenth	[+distrib, +anter]
___ʃ	eight shoes	red gems	insure	[+distrib, -anter]
___r	tree	dream	enroll	[-distrib, -anter]
___s	hats	reads	ensue	[-distrib, +anter]

Ancient Greek

p,t,k	[-voice, -spread gl]
pʰ, tʰ, kʰ	[-voice, +spread gl]
b,d,g	[+voice, -spread gl]

tri:b-o:	tetri:p-tai	'rub'
grapʰ-o:	gegrap-tai	'write'
pemp-o:	epempʰ-tʰe:n	'send'
tri:b-o:	etri:pʰ-tʰe:n	'rub'
klept-o:	kleb-de:n	'steal'
grapʰ-o:	grab-de:n	'write'

- Reduction:

  debuccalization:

  Spanish dialects: me[h], mes-e[h] 'month'

Muher (Gurage-Rose 2000)

Perfect	imperfect	jussive	imperative
ləkkʾəm	yɨ ləʔmu	yəlkʾɨm	lɨʔɨm

"bleaching": Ge'ez: / i,u,e,o,a,ə,ɨ/ the peripheral vowels derive from earlier long vowels while the central [ɨ] and [ə] derive from [,u,i] and [a] respectively.

Romanian: *kw > p   cf. Latin: aqua, R. apă 'water'

Feature tiers and underspecification:

Japanese rendaku and Lyman's Law (Ito & Mester 1986)

iro 'color', kamí 'paper', iro-gami 'colored paper'
ike   hana (*pana) 'flower', ike-bana   'flower arrangement'

Lyman's Law: in Yamato vocabulary voiceless consonants freely combine while voiced do not: futa 'lid', fuda 'sign, buta 'pig, *buda

kámi+kaze -> kami-kaze, *kami-gaze 'divine wind'
onna+kotoba -> onna-kotoba, *onna-gotoba 'woman's speech'