Theories of markedness constraints
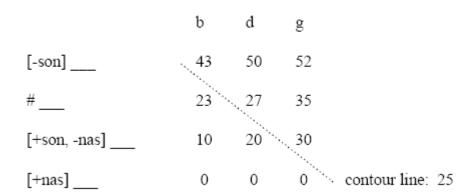
(1)   We need to develop a theory of *Con*: what is in there?

(2)   Consider the case of markedness constraints — what approach can we take?

    (a)   **All logically possible** M constraints exist (*some* are phonetically plausible, but not *all*)

      →   Factorial typology: predicts phonetically implausible patterns

        •   Is this actually a problem? We'll take another look below

    (b)   Only **phonetically grounded / functionally grounded** M constraints exist

      →   Factorial typology necessarily reflects phonetically plausible patterns

      →   What keeps the non-grounded constraints out of *Con*?

        (i) UG is just like that. (Unsatisfying?)

        (ii) *Con* itself is learned, in such a way that only grounded M constraints are posited.

I. Constraining the constraint set: Inductive Grounding (Hayes 1999)

(3)   Hayes (1999): 'Inductive Grounding'
       Observation: Markedness constraints tend to be phonetically plausible, **but**...

(2) Landscape of Difficulty for Voiced Stops: Three Places, Four Environments

	b	d	g
[-son] ___	43	50	52
# ___	23	27	35
[+son, -nas] ___	10	20	30
[+nas] ___	0	0	0	contour line: 25

- We get constraints as in Hayes's (4), not (3):

(4)a. *Voiced obstruent word-finally (Polish)
  b. *Voiced obstruent after another obstruent (Latin)
  c. *Voiced obstruent geminate (Japanese)
  d. *Voiced velar obstruents (Dutch)

(3)   A Hypothetical Phonological Constraint

  a. *any voiced stop that characteristically requires more than 25 units of effort
  b. *post-obstruent voiced stops,
      *[d,g] in initial position,
      *[g] after oral sonorants

Note that [g] is permitted by (3), but only postnasally.

(4)   Hayes's proposal: The learner only includes **grounded** constraints in *Con*

(12) Defn.: *grounded*

Given a phonological constraint C and a phonetic map M, C is said to be *grounded* with respect to M if the phonetic effectiveness of C is greater than that of all neighbors of C of equal or lesser complexity.

- Hayes's *groundedness* includes a measure of *simplicity* (distinguishing his (4)/(3))

II. Now consider this: Gaps in factorial typology (Myers 2002)

   ***see the Factorial Typology discussion

III. On *Con* and markedness constraints

(5)   Let's revisit the options first raised in (2)

- Do we **have** to keep non-grounded constraints out of *Con*?
- What lessons might we apply from the discussion of gaps in factorial typology?

References

Hayes, Bruce. 1999. Phonetically-driven phonology: The role of Optimality Theory and Inductive Grounding. In Michael Darnell et al. (eds.), *Functionalism and Formalism in Linguistics, Volume I: General Papers*, 243-285. Amsterdam: John Benjamins.