

W10 LING420 Phonological Acquisition

Homework Three: Assessing Two Children's Early Speech

Posted Monday Nov 15 2010

Due ... by Tuesday Nov 23 2010 at 4pm

Note: the due date on the syllabus is Monday Nov 22 in class. If you want the extra day, you can have it... BUT it has to be in the main office on the Tuesday 4pm. And it HAS to be in by 4pm – because I will take the hard copies home with me from the office and grade them on a plane on Wednesday! No late assignments can be accepted!

Before we begin, some notes on tableaux [where you compare a series of candidates and figure out who wins]

1. If you put a constraint in a tableau, you should make sure we defined it in class or else that you define it yourself in the assignment.
2. The best way to define a constraint is to say “Assign a violation mark (meaning a *) for every...” (and then finish it.)
3. Tableaus should usually have TWO constraints in them. Maybe three. Don't just dump every constraint you know about in a big pile. Make each argument slowly: this constraint is more important than that one, here's why (small tableau), now here's another comparison between two constraints and what they show you (another small tableau)...
4. To begin with, tableaux should usually contain at least the following two candidates for pronunciation: (i) the faithful candidate (for us, the one identical to the input – what the target grammar actually allows), and (ii) the winner (what the child currently says.) Sometimes, you may need to consider other candidates – that is, you should ask yourself: given these constraints and this ranking, is there a third option that is BETTER than the intended winner? If so, include it, and figure out what to do about it.

Part One: Derek's segmental phonology

Here are some data from a child Derek, around 2;9 – 2;11

baloney	'bwoni	away	ʌ'we
animal	'æmʊ	again	ə'ɡɪn
elephant	'ɛwɸən	surprise	'pwaɪz
sesame	'semi	cement	'men
tricycle	'twaɪkɫ	balloon	'bwun
		today	'de

Your job in this question is to give as full an account of the differences between the target (adult) and child grammars. You should *both* on the word shape, i.e. truncation and selection of input syllables, *and* the segmental processes, i.e. segmental differences between input and output segments. (As always in this class, we are considering the adult form to be the input and the child form to be the output of a single grammar.)

First: describe the patterns in words accurately. Make sure your descriptions are true for *all* of the data set – not just some parts. To describe the pattern, you will want to think both about what outputs are allowed to look like (so, what size the words are, etc...) and the inputs they are faithful or unfaithful too (so, what segments or features are being retained, at the expense of what else...)

Then, to formalize: your approach should be to characterize as much of the differences between input and output using constraints. To illustrate how the constraints do the job, you will need to draw tableaux, with a couple different constraints, and show how their ranking chooses a pronunciation.

For faithfulness, you can use the following two kinds of faithfulness constraints:

DON'T DELETE [X]
 DON'T CHANGE [X] ... where YOU define [X] – so, 'syllable', 'segment', 'consonant', 'velar' ... Any feature, particularly in the Don't Change constraints, that seems to describe the data best.

For structural constraints, start with the constraints we have used in class (you will probably have to invent one or two as well.) Remember you are accounting for word size as well as segmental changes!

If there are any input --> output mappings that you cannot explain using constraint interaction, make sure you explain these problems. Are they the result of something perceptual, might you guess? Or something else? If you think there is variation in his outputs, be careful – I suspect most of what you original might think is variation is actually systematic in his phonology. HINT: Take special note of the pronunciation of 'baloney', 'balloon', and 'elephant'. There is something slightly novel about their pronunciation – what is it? Make sure your analysis can explain why these words are pronounced with all and only the segments that their outputs contain.

Part Two: Joan’s Early Lexicon

This question asks you to explain a very different kind of output phonology: that of Joan, who at 2;1 had a very small inventory of output word shapes. The following data are representative of how she produced target one and two syllable words:

Joan at 2;1

<i>Child</i>	<i>Target</i>	<i>Child</i>	<i>Target</i>
[bæts]	<i>bench, box, blocks</i>	[sɑd]	<i>side, sign, slide, sand, song</i>
[pæts]	<i>pencil, pants, plants</i>	[zɑd]	<i>yard, lawn, lion, line, along</i>
[tʊd]	<i>cold, cord, toad, stone, turn, clean, queen, train, chain</i>	[pubʊ]	<i>people, paper, purple</i>
[dʊd]	<i>green, Joan</i>	[bu:bu]	<i>baby</i>
[tʌbʊdz]	<i>cabbage</i>	[sɑdʊ]	<i>shadow</i>
[dʌbʊdz]	<i>garbage</i>	[zɑdʊ]	<i>ladder</i>
[pʌpʊ]	<i>puppy</i>	[nutʊ]	<i>naked</i>
[pʌbʊ]	<i>probably</i>	[nʊdʊ]	<i>needle</i>
[dʊsæ]	<i>grocer</i>	[dʊzæ]	<i>daisy</i>

Your job here is to consider the best way to understand how she chooses the segments to build outputs in this data set: both the consonants and the vowels. To answer this question, I want you to at least address the following three questions:

What features of English consonants and vowels is she faithful to?

What features is she not faithful to?

What role do you see for the following tools in explaining Joan’s early word shapes:

- (i) **segmental and prosodic faithfulness constraints**
- (ii) **prosodic markedness/structural constraints**
- (iii) **templatic rules**
- (iv) **misperception of featural contrasts**
- (v) **underspecified lexical entries**

Example of each of these tools:

- (i) a segmental faithfulness constraint : ‘Don’t Change Place of Articulation’
a prosodic faithfulness constraint: ‘Don’t Change Place in Onsets’
- (ii) a prosodic markedness constraint: ‘No Complex Codas’
- (iii) a templatic rule: ‘Inputs with word-initial p → [pub]’)
- (iv) a misperception: ‘Target [k] is misperceived as [g] before [s]’
- (v) an underspecified lexical entry: ‘The unstressed syllables of two-syllable words is stored only as CVC or CV, with no featural content’

Whatever your position, give me some arguments (maybe two pages of prose, plus illustration/examples.) Make your answers all very concrete: for any claim you make, choose some words or minimal pairs to use as illustration, and provide constraint rankings in a tableau, or rules/procedures as I’ve exemplified them, showing how your explanation works. THERE ARE PATTERNS! Talk over the data with someone; be careful.