## Class 10: Correspondence review

## To do

- Fijian assignment (on last week's material) is due tomorrow (Fri)
- Next reading is Moreton 2008 (due Tuesday)
- Project: have $1^{\text {st }}$ meeting with me by the end of this week


## 1 Trick question

- Does /tui/ $\rightarrow$ [ty] violate IDENT-IO(round)?

2 Correspondence (McCarthy \& Prince 1995) = Part-numbering

- Every segment in the input bears a unique index (and perhaps every unit of structure, including features, moras, syllables...), usually written as a subscript number.
- The relation of correspondence between input and output segments is encoded by identical indices (subscripted numbers).

|  | $/ \mathrm{t}_{1} \mathrm{u}_{2} \mathrm{i}_{3} /$ | IDENT(round) | IDENT(back) |
| :--- | ---: | :---: | :---: |
| $a$ | $\left[\mathrm{t}_{1} \mathrm{y}_{2}\right]$ |  | $*$ |
| $b$ | $\left[\mathrm{t}_{1} \mathrm{y}_{3}\right]$ | $*$ |  |

- Candidate $a$ says that $/ \mathrm{t}_{1} /$ corresponds to $\left[\mathrm{t}_{1}\right]$, and $/ \mathrm{u}_{2} /$ corresponds to $\left[\mathrm{y}_{2}\right]$.
- Another way to write that: $\operatorname{Corr}\left(/ \mathrm{t}_{1} /,\left[\mathrm{t}_{1}\right]\right), \operatorname{Corr}\left(/ \mathrm{u}_{2} /,\left[\mathrm{y}_{2}\right]\right)$.
- Yet another way: Candidate $a$ 's correspondence relation $=\left\{\left(/ \mathrm{t}_{1} /,\left[\mathrm{t}_{1}\right]\right),\left(/ \mathrm{u}_{2} /,\left[\mathrm{y}_{2}\right]\right)\right\}$
- We can also draw it:

| input | output |
| :---: | ---: |
| $/ \mathrm{t}$ |  |
| $/ \mathrm{u} /$ | $[\mathrm{t}]$ |
| $\mathrm{li} /$ |  |
|  | $[\mathrm{y}]$ |

- You'll probably never see a tableau with candidates this outrageous, but they are candidates:

|  | $/ \mathrm{p}_{1} \mathrm{a}_{2} \mathrm{t}_{3} \mathrm{O}_{4} \mathrm{k}_{5} /$ |  |
| :--- | ---: | :--- |
| $a$ | $\left[\mathrm{p}_{1} \mathrm{a}_{2} \mathrm{t}_{3} \mathrm{O}_{4} \mathrm{k}_{5}\right]$ |  |
| $b$ | $\left[\mathrm{p}_{5} \mathrm{a}_{1} \mathrm{t}_{4} \mathrm{O}_{2} \mathrm{k}_{3}\right]$ |  |
| $c$ | $\left[\mathrm{p}_{1} \mathrm{a}_{1} \mathrm{t}_{1} \mathrm{O}_{1} \mathrm{k}_{1}\right]$ |  |
| $d$ | $\left[\mathrm{p}_{6} \mathrm{a}_{7} \mathrm{t}_{8} \mathrm{O}_{9} \mathrm{k}_{10}\right]$ |  |

(I left space in case we want to consider some constraints that this violates)

## 3 Good and bad correspondence relations

Faithfulness constraints (aka correspondence constraints) regulate these relations.
Here are the ones proposed by McCarthy \& Prince. We add "IO" to specify that we're talking about input-output correspondence.

| IDENT(F)-IO | (don't change <br> feature values) | If an input segment and an output segment correspond, they <br> must bear identical values for feature [F]. |
| :--- | :--- | :--- |
| MAX-C-IO | (don't delete) | Every consonant in the input must have a correspondent in the <br> output. <br> Every vowel in the input must have a correspondent in the <br> output. |
| DEP-C-IO | (don't insert) | Every consonant in the output must have a correspondent in the <br> input. <br> Every vowel in the output must have a correspondent in the <br> input. |
| LEFT-ANCHOR(X)-IO |  | If there is an input segment A at the left edge of X (X = word, <br> stem, phrase, whatever) in the input, and an output segment B is <br> at the left edge of the same X in the output, A must correspond <br> to B. |
| RIGHT-ANCHOR(X)-IO |  | If there is an input segment A at the right edge of X (X = word, <br> stem, phrase, whatever) in the input, and an output segment B at <br> the right edge of X in the output, A must correspond to B. |
| UnIFORMITY-IO | (don't <br> coalesce) | Nothing in the output can have more than one correspondent in <br> the input. |
| INTEGRITY-IO | (don't split) | Nothing in the input can have more than one correspondent in <br> the output. |
| LINEARITY-IO | (don't <br> metathesize) | If A precedes B in the input, and A and B both have <br> correspondents in the output, then A's output correspondent has <br> to precede (but not necessarily immediately precede) B's output <br> correspondent. |
| O-CONTIGUITY-IO | (don't intrude) | If A immediately precedes B in the input, and A and B both <br> have correspondents in the output, then A's output <br> correspondent has to immediately precede B's output <br> correspondent. |
| I-ConTIGUITY-IO | (don't skip) | If A immediately precedes B in the output, and A and B both <br> have correspondents in the input, then A's input correspondent <br> has to immediately precede B's input correspondent. |

(MAX = maximize the preservation of material in the input
DEP = every segment in the output should depend on a segment in the input.)

- Given the input $/ \mathrm{p}_{1} \mathrm{a}_{2} \mathrm{t}_{3} \mathrm{O}_{4} \mathrm{k}_{5} /$, devise, for each of the correspondence constraints above, an output candidate that violates it.
- Can you think of a candidate that violates DEP but not I-CONTIG?
- Can you think of a candidate that violates Max but not O-Contig?
- Can you think of a candidate that violates DEP and L-ANCHOR(Word) in the same place?
- Can you think of a candidate that violates MAX and R-ANCHOR(Word) in the same place?
- Does $/ \mathrm{p}_{1} \mathrm{a}_{2} \mathrm{t}_{3} \mathrm{O}_{4} \mathrm{a}_{5} / \rightarrow\left[\mathrm{p}_{1} \mathrm{a}_{2} \mathrm{t}_{3} \mathrm{w}_{4} \mathrm{a}_{5}\right]$ violate MAX-C-IO?


## 4 Where it gets tricky

- Does this violate O-ConTIG: $/ p_{1} \mathrm{a}_{2} \mathrm{t}_{3} \mathrm{o}_{4} \mathrm{k}_{5} / \rightarrow\left[\mathrm{p}_{1} \mathrm{a}_{2} \mathrm{t}_{3} \mathrm{a}_{4} \mathrm{u}_{4} \mathrm{k}_{5}\right]$ ? I-ConTIG?

We usuall don't worry about it. Contig constraints were designed to regulate deletion and insertion inside a candidate (as opposed to at the edge), so they probably wouldn't appear in a tableau with that candidate.

- Does this violate IDENT(round): $/ \mathrm{t}_{1} \mathrm{u}_{2} \mathrm{i}_{3} / \rightarrow\left[\mathrm{t}_{1} \mathrm{y}_{2,3}\right]$ ?

Struijke 2001 \& Struijke 2000, working on reduplication, proposes that faithfulness constraints should be defined existentially:

- IDENT(F)-IO: if A is an input segment with one or more output correspondents, at least one of A's output correspondents must have the same value for $[\mathrm{F}]$ as A does.
because this is asymmetrical, I guess we'd also need
- Ident(F)-OF: if B is an output segment with one or more input correspondents, at least one of B's input correspondents must have the same value for $[\mathrm{F}]$ as B does.


## 5 Strings that can be subject to correspondence

- Input-Output
- Base-Reduplicant
- Output-Output (Benua 1997; Crosswhite 1998; Kenstowicz 1996; Steriade 2000; Burzio 1999 and many others)
- Variant-Variant (Kawahara 2002)


## References

Benua, Laura. 1997. Transderivational Identity: Phonological Relations between Words.. University of Massachusetts, Amherst.
Burzio, Luigi. 1999. Surface-to-surface morphology: When your representations turn into constraints.. Baltimore, MD.

Crosswhite, Katherine M. 1998. Segmental vs. prosodic correspondence in Chamorro. Phonology 15(3). 281-316.
Kawahara, Shigeto. 2002. Similarity among Variants: Output-Variant Correspondence.
Kenstowicz, Michael. 1996. Base-identity and uniform exponence: alternatives to cyclicity.. In Jacques Durand \& Bernard Laks (eds.), Current Trends in Phonology: Models and methods, 363-393. Paris-X and Salford: University of Salford Publications.
McCarthy, John J \& Alan Prince. 1995. Faithfulness and Reduplicative Identity.. In Jill Beckman, Laura Walsh Dickey, \& Suzanne Urbanczyk (eds.), University of Massachusetts Occasional Papers in Linguistics 18, 249-384. Amherst, Mass.: GLSA Publications.
Steriade, Donca. 2000. Paradigm uniformity and the phonetics-phonology boundary.. In Janet Pierrehumbert \& Michael Broe (eds.), Acquisition and the Lexicon (Papers in Laboratory Phonology 5), 313-334. Cambridge: Cambridge University Press.
Struijke, Caro. 2000. Why constraint conflict can disappear in reduplication.. In Masako Hirotani (ed.), Proceedings of the North East Linguistics Society 30, 613-626. Amherst, Mass.: GLSA Publications.
Struijke, Caro. 2001. Existential faithfulness: A study of reduplicative TETU, feature movement, and dissimilation.. University of Maryland, College Park.

