

Evaluating the Empirical Basis for Output-Output Correspondence

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I. Overview of talk

Output-output correspondence in

- Rotuman phases (McCarthy 1995)
- English hypercoristics (Benua 1995)
- Base Identity/Uniform Exponence and ‘Analogy’ (Kenstowicz 1994)

Criticisms

- Opportunism
- Misanalysis
- Problematic predictions

Our contributions

- Simple, principled solutions
- More constrained theory of phonology — potentially no output-output

II. Rotuman Phase McCarthy 1995)

A. Syntactico-semantic principles?

(1) McCarthy (1995:2) regarding the conditions under which the two phases occur:

Rotuman has a contrast in major-category words between two phases, the complete and the incomplete, distributed according to syntactico-semantic principles.

No further details are provided regarding what sort of ‘syntactico-semantic’ principles McCarthy has in mind, though this term appears to refer to Churchward’s analysis. As we will see below, the phases are PHONOLOGICALLY conditioned.

(2) Churchward (1940) on the ‘semantics’ of the phase distinctions:

Incomplete phase: ‘indefinite’

Complete phase: ‘definite,’ ‘positiveness, finality, or emphasis’

An examination of the relevant constraint posited by McCarthy to trigger the incomplete phase in Rotuman is instructive.

(3) Inc-Ph Constraint (McCarthy 1995:11)

Every incomplete-phase stem ends in monosyllabic foot (or heavy syllable).

Align(Stem_{Inc.Ph.}, Right, [σ]_{Ft}, Right) (or Align(Stem_{Inc.Ph.}, Right, $\sigma_{\mu\mu}$, Right))

This constraint accounts, together with constraints needed to specify the correct ‘repair’ to violations of INCPH for particular stem types, for the descriptive observation that “the incomplete phase is identical to the complete phase, except for the fact that the *final foot* of the complete phase is realized as a *monosyllabic foot* in the incomplete phase” (McCarthy 1995:11). This accounts for alternations of the type *tokiri*_{comp}:*tokir*_{inc} (deletion), *seseva*_{comp}:*seseav*_{inc} (metathesis), etc.

- | | | |
|-----|---------------------------------------|--|
| (4) | Complete Phase Input
<i>tokiri</i> | Incomplete Phase Input
<i>tokiri</i> +INC _{PH} |
|-----|---------------------------------------|--|

B. Trouble in Paradise

(5) shows two pronouns in the incomplete phase (*gou*, the incomplete phase of *goua* ‘I’, and *iris*, the irregular incomplete phase of *irisa* ‘them’). In neither case is the pronoun ‘indefinite’ in any coherent semantic sense (nor, indeed, does it seem likely that a pronoun such as *goua* ‘I’ could possibly have an ‘indefinite’ interpretation).¹

- (5) *gou la tük iris*
I_{inc} / FUT / stop_{inc} / them_{inc}
‘I will stop them’

In (6) and (7) the verb shows precisely the same aspectual form and interpretation, yet it is in the incomplete phase in (6) and the complete phase in (7). In fact, *all verbs* are in the complete phase before the anaphoric clitic *e*, regardless of the semantics of the verb. [Note also that an ‘indefinite’ interpretation of personal names such as *Titof* and *Raho* is semantically excluded — in spite of their being in the incomplete phase.]

- (6) *ma Titof noh ma tupue‘ te‘is ‘e Faufano* (II.9)
and / Titof_{inc} / lived_{inc} / with / tupu‘a_{inc} / this_{inc} / at / Faufano
‘and Titof lived with this *tupu‘a* at Faufano’
- (7) *ia tä puer se hanue=t ne Rah noho e* (I.3)
he / TNS / rule_{inc} / over / land=the_{inc} / where / Raho_{inc} / lived_{comp} / there(in)
‘he ruled over the land in which Raho lived’

- (8) Suffixes and clitics which invariably trigger the complete phase — monosyllables²
-*ga* ‘nominalizer’: *pu‘a* ‘to be greedy’ > *pu‘aga* ‘greed’
-*me* ‘hither’: *ho‘a* ‘to take’ > *ho‘ame* ‘to bring’
-*a* ‘transitive suffix’: *hili* ‘to make a choice (intr.)’ > *hilia* ‘to choose something (tr.)’
e ‘locative anaphor’: *noho* ‘to dwell, live’ > *noho e* ‘to dwell therein’

- (9) Suffixes and clitics which invariably trigger the incomplete phase — disyllables
-*ia* ‘ingressive’: *sunu* ‘to be hot’ > *sun‘ia* ‘to become hot’
-*‘aki* ‘causative’: *tole* ‘to carry’ > *tol‘aki* ‘to cause to be carried’
-*kia* ‘transitive’: *ho‘a* ‘to take (intr.)’ > *hoa‘kia* ‘to take (tr.)’
ta‘a ‘that’: *vaka* ‘canoe’ > *vak ta‘a* ‘that canoe’

There is clearly no coherent sense in which the *ho‘a* of *ho‘ame* ‘to bring’ is a ‘definite’ version of *ho‘a* ‘to take,’ or in which *sun* of *sun‘ia* ‘to become hot’ is an ‘indefinite’ version of *sunu* ‘to be hot.’ Equally clearly the incomplete phase *vak* (from *vaka* ‘canoe’) in *vak ta‘a* ‘that canoe’ is definite.

¹ Note that Churchward’s assertion that a *verb* may also be ‘indefinite’ or ‘definite’ based on its phase also seems vaguely incoherent, semantically.

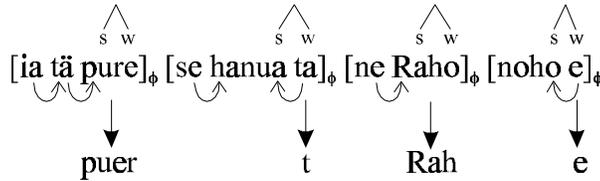
² The lists in (8) and (9) represent only a selection of the relevant clitics and suffixes; for a more complete survey see Hale & Kissonock (1996, 1997).

C. Phase is Phonologically Conditioned

(10) Phonological Conditions for Clitic Group Incomplete phase

Build R>L binary feet within each clitic group. If a vowel is both at the right edge of a foot and a morpheme, that vowel will undergo the effects of Incomplete phase formation.

An example of the application of this algorithm to the sentence in (7) is given in (10). The arrows indicate directions of enclitics (rightward arrows showing proclisis, leftward arrows enclisis). Proclitics do not show phase distinctions.³



D. Who's on First?

(11) “With respect to its vocalism and its foot structure, the incomplete phase is faithful to the complete phase, rather than the lexical form, strongly supporting the correspondence-based model in (54)”. [McCarthy 1995:47]

(12) McCarthy's (54) specifies the following correspondence relations:

Lexical Specification

⇓

Complete Phase Surface ⇒ Incomplete Phase Surface

(13) McCarthy chooses to ignore phonologically conditioned broad/narrow alternation

	complete phase contexts	Incomplete phase contexts
broad version contexts	<i>i'a</i> <i>puga</i>	<i>ia'</i> <i>puag</i>
narrow version contexts	<i>i'e-</i> <i>puge-</i>	<i>ie'-</i> <i>puag-</i>

³ Note that the incomplete phase of *noho e* is simply *noho e*. This is its expected form, given the rules for incomplete phase formation.

(14) Which ‘Output’ is base for generation of Incomplete Narrow Version forms?

Broad Version Complete		Narrow Version Incomplete
<i>**i‘a</i>	>	<i>ie‘-</i>
<i>puga</i>	>	<i>puag-</i>
Narrow Version Complete		Narrow Version Incomplete
<i>i‘e</i>	>	<i>ie‘-</i>
<i>**puge-</i>	>	<i>puag-</i>

E. Summary

- Syntactico-semantic conditioning won’t work
- Phonological conditioning \Rightarrow IncPh is not a morpheme \Rightarrow there can be no output-output correspondence since complete/incomplete are underlyingly IDENTICAL
- Even if we wanted output-output correspondence, there can be no principled choice of base.

II. English Hypocoristics (Benua 1995)

A. Opportunistic Choice of Base

(15) Posited constraint: **æɹ#*

Larry	Lar	[æɹ#]
Harry	Har	[æɹ#]
Sarah	Sar	[æɹ#]

The PHONO constraint is violated since it is outranked by constraints demanding Correspondence between truncated and non-truncated forms

Note: the analysis rests on the assumption that the absence of [æɹ#] in English is the result of a phonological constraint rather than being an accidental gap. It could be argued that the existence of the form [læɹ], itself, and others like it, indicates the latter. Note that, accepting the oft-touted property of OT that it predicts the output, for a given speaker, for any arbitrary UR (in that the output will be well-formed, given the constraint ranking in that speaker’s phonology), a prediction follows if there really is a **æɹ#* constraint in these dialects. If Lar [læɹ], Sar [sæɹ], and Har [hæɹ] — who call each other by these affectionate nicknames constantly — go to some part of the world where a language is spoken that allows [æɹ#] sequences, they will ‘repair’ these sequences when pronouncing words from that language, rather than produce them intact. We strongly suspect that this is incorrect.

(16) Sarah Sar
Harold Har

(17) Lawrence [lɔɹəns] Larry [læɹi] *Lawry [lɔɹi]
Lawrence [lɔɹəns] Lar [læɹ] *Lawr [lɔɹ]

In neither of the cases in (17), which could be trivially multiplied, both of which represent hypocoristic truncation, is faithfulness to vowel quality shown. Therefore, there can be no general principle of vowel quality faithfulness in the formation of truncated hypocoristics. Only by opportunistically restricting the data considered does the author manage to make the analysis look plausible.

B. Violations of Benua's Principle

(18) Discussing Larry:Lar, Benua says (1995:6):

...there is no correspondence relation between the input and truncated output form. This predicts that truncated words will never be more faithful to the underlying stem than the base is. That is, there should be no case in which the base shows epenthesis, deletion, coalescence or other lack of faithfulness to the input that is not also observed in the corresponding truncated words.

(19) Truncation forms show more faithful consonants

Pe[D]ey	Pe[t]e
Ju[D]y	Ju[d]e

(20) Truncation forms show more faithful vowels

P[ə]tricia	P[æ]t
G[ə]rard	G[ε]r
L[ə]rraine	L[o]ri

C. Further evidence that hypocoristics are lexicalized

(21)	Nathaniel	Nate	[note *Nathe, *Nathy]
	Robert	Bob	
	Margaret	Peg	
	Edward	Ted	

III. Uniform Exponence (Kenstowicz 1994)

A. Opportunistic choice of constraints and candidate sets and inaccurate evaluation

(22) Uniform Exponence: minimize the differences in the realization of a lexical Item (morpheme, stem, affix, word).

The first case we will consider concerns Kenstowicz' analysis of the *honor, hono:ris, hono:rem...* paradigm of Latin. Kenstowicz cites the adjective *honestus* 'honest' as providing evidence that this morpheme has in fact an underlying *s*. Not without interest is the fact that *honestus* is considered 'close enough' to *honor* to provide an acquirer with the critical evidence that, in spite of the invariant realization of the final segment of the nominal stem as [r], it should be taken as the realization underlying /s/. *honestus* must therefore be analyzed as *hones-tu-s* (note the difference in vowel quality in the second syllable), with the first morpheme being **the same** as that in *honor, hono:ris, hono:rem...* Nevertheless, *hones-tus* is arbitrarily left out of consideration in evaluating the 'uniform exponence' of this morpheme. This again represents opportunistic selection of the material considered.

(23) Kenstowicz's Tableau for *honor, hono:ris*, etc. (Kenstowicz 1994:44)

	/hono:s, hono:sis, hono:sem, .../	UE(N)	*VsV	Faith-/s/
☑	honor hono:r-is hono:r-em	✓	✓	***...
	honos hono:r-is hono:r-em	*!	✓	**...
	honos hono:s-is hono:s-em	✓	*!*...	✓

The lack of 'violation' asterisks for UE(N) — which means 'uniform exponence within the nominal paradigm' (this to, in our view arbitrarily, exclude *honestus* from consideration) — is rather bizarre, given the blatant contrast in vowel length (which is *phonemic* in Latin) within the paradigm.

(24) A Tableau which considers a fuller candidate set, with improved evaluation marks

	/hono:s, hono:sis, hono:sem, .../	UE(N)	*VsV	Faith-/s/
☑	hono:r hono:r-is hono:r-em	✓	✓	***...
	hono:s hono:s-is hono:s-em	✓	*!*...	✓
	honos hono:r-is hono:r-em	*!	✓	**...
	honor hono:r-is hono:r-em	*!	✓	***...
	honos hono:s-is hono:s-em	*!	**...	✓

B. Restructuring of Input Representations

- (25) Standard Korean⁴: kap, kaps-i, kap-k'wa...
 Younger Generation Korean: kap, kap-i, kap-k'wa...
 K's underlying form for both: /kaps/

⁴ The Korean case is taken to be due to Base-Identity (rather than Uniform Exponence) by Kenstowicz. Our point regarding the remaking of UR's holds of either analysis.

- (26) Spanish: des- “de-, un-”
 Dialectal forms of /des-/: deh.cal.zar, de.he.cho, deh- (invariant)
 K’s underlying form *for both*: /des-/

(27) We must ask whether the more salient linguistically significant generalization is th[e] historical fact, or the fact that the morpheme in question has one, and only one, realization. (Reiss 1997, q.v. for discussion of ‘analogy’)

This matter has been addressed recently on the OT discussion list by Prince:

- (28) Alan Prince (Nov 1996, OT electronic discussion)

A correspondent to this list wonders why, in a grammar G such that $G(a)=G(b)$ for potential input elements /a/,/b/, a nonalternating observed element [a] is not (sometimes, always, freely) lexically /b/.

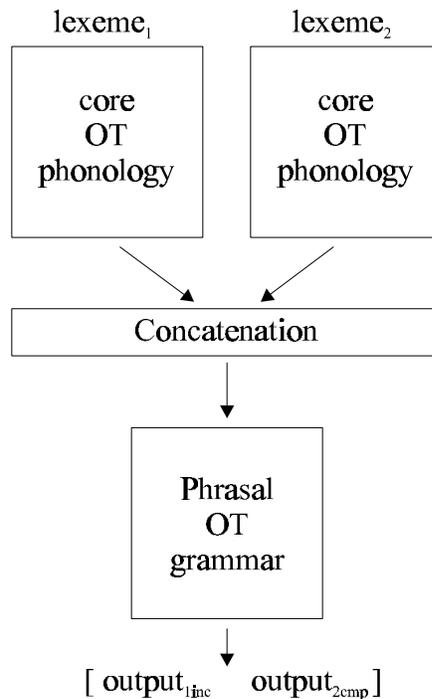
The correct answer is surely ‘why bother?’ — i.e. to set up /b/ for [a] when /a/ will do. This line of approach was taken up by Stampe in the late 60’s- early 70’s, (and independently noted by Dell in his text of roughly the same vintage). Hence the term ‘Stampean occultation’ — the possibility of /b/ for [a] is *hidden* by the possibility of /a/. The basic idea reappears as ‘lexicon optimization’ in recent discussions.

We concur.

IV. Postlexical Phonology in OT

McCarthy acknowledges the *serial* nature of Rotuman derivations involving output-output correspondence. By keeping this serialism, but doing away with output-output correspondence we can capture pre-OT generalizations about the phonology of specific postlexical prosodic domains (e.g., the clitic group in Rotuman). We sketch a model of such a grammar (or, to be more precise, pairing of optimality-theoretic phonological grammars) in (29).

(29) A Semi-Traditional Alternative

**References**

- Benua, Laura. 1995. Identity Effects in Morphological Truncation. To appear in J. Beckman, S. Urbanczyk & L. Walsh (eds), *University of Massachusetts Occasional Papers in Linguistics 18: Papers in Optimality Theory*, Graduate Linguistic Student Association, Amherst, MA (also ROA).
- Churchward, C. M.. 1940. *Rotuman Grammar and Dictionary*. Sydney: Methodist Church of Australasia.
- Hale, Mark and Madelyn Kissonck. 1996. *The Phonology-Syntax Interface in Rotuman*. Austronesian Formal Linguistics Association meeting, UCLA (to appear in proceedings of same).
- . 1997. *The Incomplete Phase in Rotuman: a synchronic analysis*, ms., Concordia University and Harvard University.
- Kenstowicz, Michael. 1994. *Base-Identity and Uniform Exponence: Alternatives to Cyclicity*. ROA.
- McCarthy, John. 1995. *Faithfulness in Prosodic Morphology & Phonology: Rotuman Revisited*. ROA.
- Reiss, Charles. 1997. *Analogy is a Result of the Nature of Parsing*. ms., Concordia University.
- Titifanua, Mesulama and C. M. Churchward. 1938. *Tales of a lonely island*. Oceania Monographs, no. 4. Sydney [reprint Institute of Pacific Studies, University of the South Pacific, 1996].