Description and explanation: English revisited

Paul Kiparsky

Outline

Classical OT — a restrictive theory

Universal constraints, language-specific ranking, constraints evaluated in parallel, single output representation, a learning algorithm.

- Constraint interaction handles phenomena that ordered rules can't: conspiracies, top-down effects, the "emergence of the unmarked".

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- Constraint interaction handles phenomena that ordered rules can't: conspiracies, top-down effects, the "emergence of the unmarked".
- Brings substantive universals and typological generalizations to bear on the analysis of individual phonological systems.

Prince and Smolensky 1993

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- Can't handle inheritance of phonological properties from Bases to derivatives, which SPE theory gets by cyclic application of rules.

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- The failure of ordering theories to privilege transparency is as damaging at the explanatory level as classical OT's failure to countenance opacity is at the descriptive level.
- Cyclic application in SPE is a stipulative mechanism.

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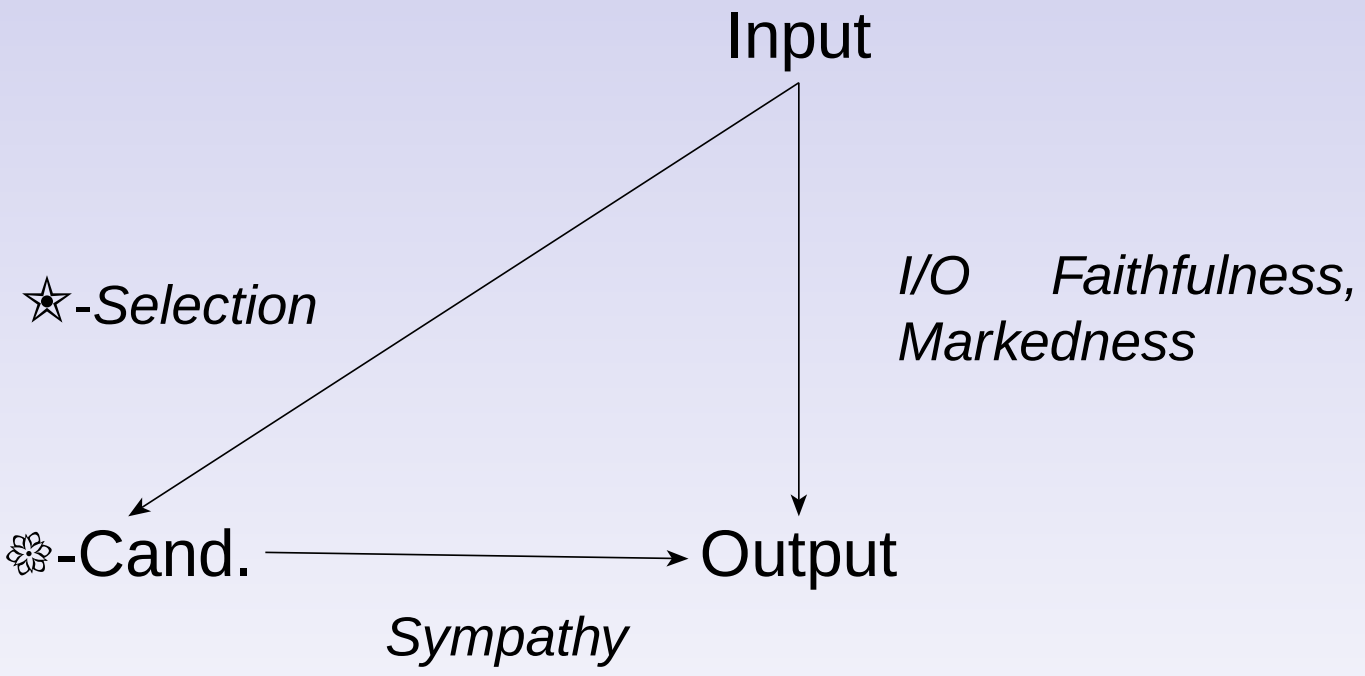
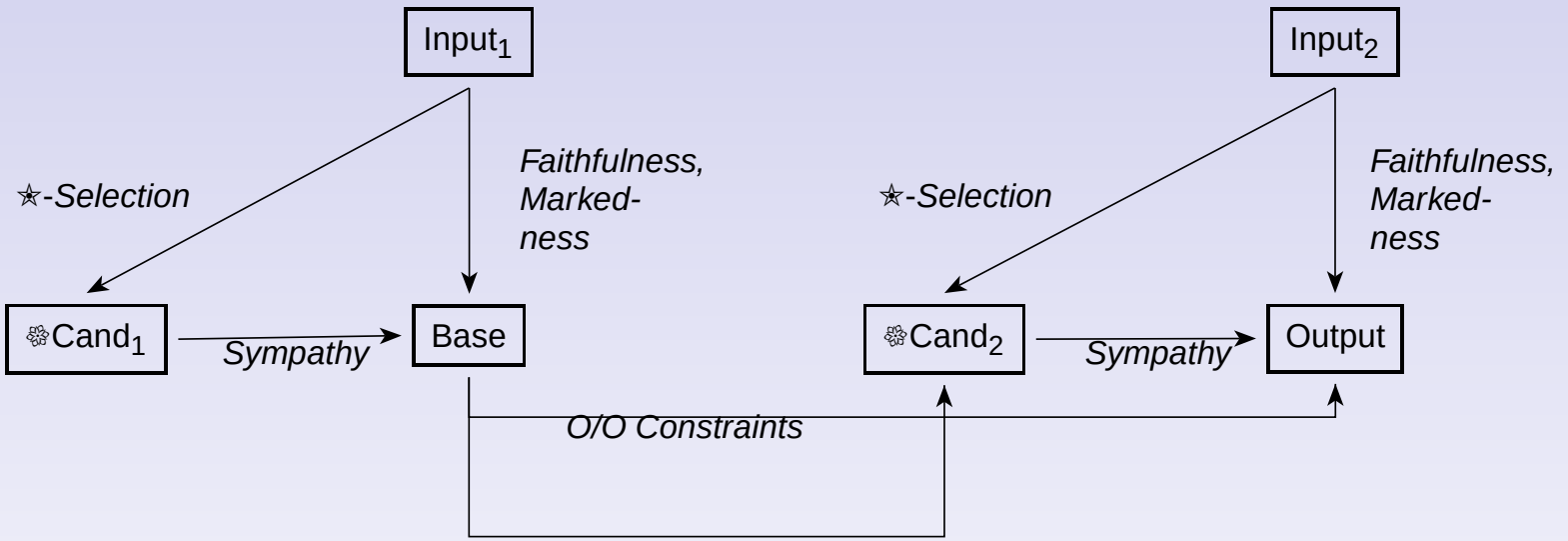
Sympathy


Input
☆-Selection
I/O Faithfulness, Markedness
❀-Cand.
Output
Sympathy


Input$_1$
Input$_2$
✯-Selection
Faithfulness, Markedness
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✿Cand$_1$
Sympathy
Base
✿Cand$_2$
Sympathy
Output
O/O Constraints

Sympathy wrecks the factorial typology

Collapse of the syllable typology: Deriving the putatively non-existent "overkill" case by sympathy.

			DEP-C$_{\text{Dep-V}}$	MAX-V$_{\text{Max-C}}$	*CODA	✯DEP-V(I/O)	✯MAX-C(I/O)
Input: /pam/							
a.		pam	*	*	*		
b.	❀	pamə	*			*	
c.	❀	pa		*			*
d.	☞	pa.ə				*	*

Stratal OT: parallel strata, serial interface

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Kiparsky 2000, Bermúdez-Otero 1999, 2003, 2005, 2006, forthcoming, Rubach 2000, 2006.

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- Cyclic inheritance and opacity.

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E.g. stratification of vocabulary (Itô and Mester 1995, Itô 1995), stratification of morphology (Inkelas and Zoll 1994, 1997).

Special assumptions of Stratal OT

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- Opacity is constraint masking.

OT with two strata

- Lexical and postlexical phonology as separate constraint systems (McCarthy & Prince 1993, 1995, Cohn & McCarthy 1994, Clements 1997, Itô & Mester 1999, 2002, 2003a, 2003b, Padgett 2003).

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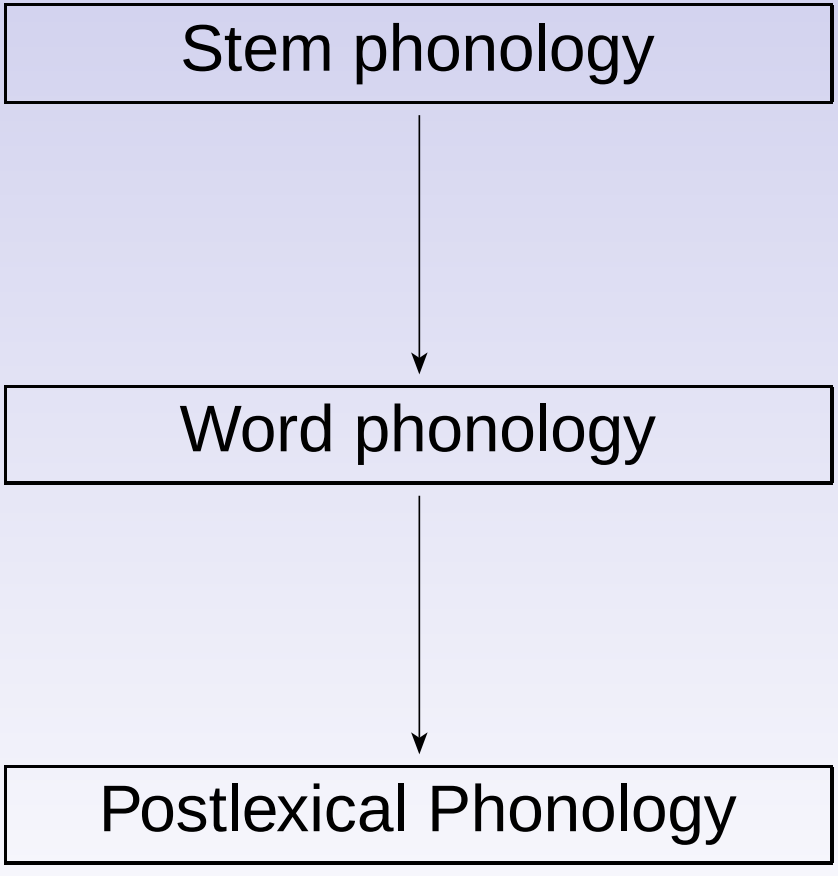
- Unofficial two-stratum model common in descriptive practice: the phonology outputs citation forms of words, ignoring sentence-level sandhi.

OT with three strata



Strata may differ in constraint ranking

The constraint system of level *n+1* may differ in ranking from constraint system of level *n* by promotion of one or more faithfulness constraints or markedness constraints to undominated status.

Outline

What do derived words inherit from their bases?

- Stress
  - *rèdefinítion* vs. *redùplicátion*
    cf. *rèdefíne*, *redúplicàte*
  - *glòttalizátion* vs. *imàginátion*
    cf. *glòttalíze*, *imágine*

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  - *glòttalizátion* vs. *imàginátion*
    cf. *glòttalíze*, *imágine*
- But not always
  - *còntribútion* = *còntradíction*
    vs. *contríbute*, *còntradíct*

The SPE-style explanation

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- Stress assignment is followed by destressing in certain environments, such as pretonic open syllables.
- Prediction: cyclically assigned phonological properties persist unless wiped out by later rules.

Lexical contrastiveness and cyclicity

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- LPM: lexical rules are cyclic.

Lexical contrastiveness and cyclicity

- Lexical contrast: *Epàminóndas* vs. *Tàtamagóuchi*

Input: [epáminondas]	IDENT-STRESS	ALIGN-LEFT
a. (èpa)mi(nón)das	*	
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Ranking the markedness constraints between the I/O and O/O constraints allows contrast without inheritance:

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- At the stem level, this ranking is equivalent to saying that P is lexically distinctive.

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1. Pretonic light syllables lose their stress (a consequence of foot binarity): *órigin, oríginal; grámmar, grammárian; májesty, majéstic; míracle, miráculous, sýnonỳm, synónymous, phonétic, phònetícian, mèteorólogy, mèteorológical; àcadémic, àcademícian, épigràph, epígraphy*

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3. Stress is preserved in non-pretonic syllables: *oríginal, orìginálity; phenómenon, phenòmenólogy; apócalỳpse, apòcalýptic; apócopàte, apòcopátion; epíscopal, epìscopálian; épigràm, èpigrammátic; équalìze, èqualizátion*

Same distribution for lexically distinctive stress

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Palatalization before *y*

palace	palatial [pʰəleiʃɬ]	(cf. baron-ial)
revise	revision	(cf. rebell-ion)
Tunis	Tunisia	(cf. Mongol-ia)
space	spacious	(cf. bil-ious)

- Palatalization: $t,d,s,z \rightarrow \widehat{tʃ},\widehat{dʒ},ʃ,ʒ \ / \ \_\_y$

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- Perhaps part of a general coronal assimilation process (*tr* → *t͡ɹ* etc.).
- Doesn't apply before stressed *u* ([yu:w]). Standard analysis: *y* here is part of the nucleus.

Chomsky and Halle 1968, Hayes 1979, Halle and Mohanan 1985, Borowsky 1986, Kager 1992

Opacity: overapplication of palatalization

Asia [éiʒə]	Asiatic [èiʒi:ǽrık]
ocean [óuʃn̩]	oceanic [òuʃi:ǽnık]
palace	palatial [pʰəléiʃɬ]
artifice	artificial [ὰrrıfíʃɬ]
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palace	palatial [pʰəleiʃɬ̩]	overapplication!
artifice	artificial [ɑ̀rrıfíʃɬ̩]	overapplication!
	artificiality [ɑ̀rrıfìʃıælıri]	overapplication!

Overapplication is productive: nonce forms

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grace	gracious	grà[ʃi:]ósity
pretence	pretentious	pretèn[ʃi:]ósity
palace	palatial	palà[ʃi:]álity

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  - Why not *social : *so[ʃ]ality* , like *total : totality*?

Overapplication is productive: nonce forms

space	spacious	spà[ʃi:]ósity
grace	gracious	grà[ʃi:]ósity
pretence	pretentious	pretèn[ʃi:]ósity
palace	palatial	palà[ʃi:]álity

- *Q:* Where does the [i:] come from?
  - Why not *vicious : *vi[ʃ]osity* , like *viscous : viscosity*?
  - Why not *social : *so[ʃ]ality* , like *total : totality*?
- *A:* [ʃ] is /-sy-/. /y/ triggers palatalization, becomes syllabic before a stressed vowel (*CLASH), and deletes elsewhere (OCP).

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- This *predicts* the retention of palatalization in the base.

Inheritance

a.	perpe[ʧ]ual	perpe[t]uity
b.	ma[t]ure	ma[ʧ]uration
c.	si[ʧ]uate	si[ʧ]uation
d.	in[t]uit	in[t]uition
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- So the *y* in short *u* must be an onset, hence triggers palatalization.
- No palatalization in *intuition* because prevocalic vowels don't shorten: *expiation* vs. *explication*, *inchoation* vs. *intonation*.

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- It also helps explain how phonology can be acquired.
- It provides a framework for comprehensive phonological description.