

1 Conspiracies

Phonological conspiracy — when several rules work together (in a conspiracy) to ensure that some particular structure does not surface in the language. *When a structure that the language doesn't 'like' might surface, it's 'taken care of' by one of the several rules involved in the conspiracy.*

Target is the goal—the thing the language 'likes'.

Repair is one of the methods in the conspiracy of achieving that goal. *Different languages may have the same target, but go after it in different ways with different repairs, too.*

1.1 The Japanese conspiracy

- What's the distribution of [t] and [d] in the past tense? Write a rule.
- Is the place of articulation of the nasals in 'die' and 'read' predictable? Write a rule.
- Is there a wider generalisation about the sort of NC clusters that occur in Japanese?

Japanese			
[mi]	'see'	[mita]	'saw'
[sin]	'die'	[sinda]	'died'
[yom]	'read'	[yonda]	'read'
[kat]	'win'	[katta]	'won'

1.2 The Swahili conspiracy

- What's the distribution of [m], [n], [ŋ], and Ø in the plural suffix /n-/? Write rules.
- Is there a wider generalization about the sort of NC clusters that are allowed in Swahili?

Swahili			
[ubawa]	'wing'	[mbawa]	'wings'
[udevu]	'hair'	[ndevu]	'hairs'
[ugwe]	'string'	[ŋgwe]	'strings'
[upaŋga]	'sword'	[paŋga]	'swords'
[utambi]	'lamp wick'	[tambi]	'lamp wicks'
[ukata]	'wall'	[kata]	'walls'

1.3 The Indonesian conspiracy

- When do [ŋ], [m], and [n] surface in the prefixed form? Write a rule.
- Consider root-initial [p], [t], [k] in the simple forms. What happens to them in the prefixed forms? Write a rule.
- Is there a wider generalization about the sort of nasal-consonant clusters that are allowed in Indonesian?

Indonesian		
simple	prefixed	gloss
[ambil]	[məŋambil]	'to take'
[isi]	[məŋisi]	'to fill up'
[undaŋ]	[məŋundaŋ]	'to invite'
[bəli]	[məmbəli]	'to buy'
[dəŋar]	[məndəŋar]	'to hear'
[goreŋ]	[məŋgoreŋ]	'to fry'
[kirim]	[məŋirim]	'to send'
[tulis]	[mənulis]	'to write'
[pukul]	[məmukul]	'to hit'
[pilih]	[məmilih]	'to choose'
[kasih]	[məŋasih]	'to give'
[dapat]	[məndapat]	'to receive'
[ganti]	[məŋganti]	'to change'

1.4 The global conspiracy

Japanese, Swahili, Indonesian all exemplify conspiracy.

- What is the *target* in each language?
- What repairs does each languages employ?

1.5 Implications

The existence of conspiracies—and the realization that many different languages share targets but use different repairs to achieve them—has led linguists away from using rules to described phonological processes. Why?

2 Optimality Theory (OT)

2.1 Problems with derivational (rule-based) model

- **Conspiracies** — multiple phonological rules conspire to achieve the same end
- **Need for rules and constraints** — an expanded inventory of repair devices
- **Language-specific rules** reoccur in many languages
- **Duplication problem** — some rules restated at both structural and phonetic level
- **Children acquire rules they're never exposed to**

2.2 General characteristics of Optimality Theory

- **No rules** — instead constraints.
- **No derivation** — everything is done in parallel.
- **No intermediate levels** of representation.
- **Inputs are universal** and unconstrained by a language.

2.3 A grammar in OT

- An OT grammar is a list of ranked (ordered), violable constraints
- Tableaux [tæ'blo] are used to evaluate / demonstrate a ranking
- The candidate with the fewest high-ranking constraints “wins” (i.e., is output)

/input/		C ₁	C ₂	C ₃
a.	candidate a		*	*
b.	candidate b		**!	
c.	candidate c	*!		

2.4 Some constraints

- **IDENT(*f*)** — Assess a violation for any difference in the feature *f* between the input and the output
e.g., IDENT(nas), IDENT(place), etc.
- ***X** — Assess a violation for any occurrence of X in the output
e.g., *V(nas), *NC_o, etc.
- **MAX** — Assess a violation for any segment that occurs in the input but not the output

2.5 Practice

- Which candidate is output by each grammar? Fill in the tableaux to find out!

/pæt/		IDENT(nas)	*V _{nas}
a.	pæt		
b.	pæt̃		

/pæt̃/		*V _{nas}	IDENT(nas)
a.	pæt		
b.	pæt̃		

- Which tableau represents the grammar of French, and which the grammar of English?
- Now figure out which ranking of the following constraints works for each of Japanese, Swahili, and Indonesian:
IDENT(nas), MAX, *NC_o, *N_[αplace]C_[βplace]