

## Derived Environment Effects and Optimality Theory

K r i s z t i n a P o l g a r d i

HIL/Leiden University  
P.O. Box 9515, 2300 RA Leiden  
E-mail: polgardi@rullet.leidenuniv.nl

( 1 ) Y a w e l m a n i Y o k u t s

$$\begin{array}{l} C \rightarrow \emptyset / CC + \_ \\ C \rightarrow \emptyset / C + \_ C \\ \emptyset \rightarrow V / CC \_ \{ \#, C \} \end{array}$$

(2) Rules that do not apply in non-derived environments

(a) *Finnish Assibilations* (Kiparsky 1973a)

- (i) t → s / \_i
- (ii) /tilat+i/ → tilasi 'ordered'
- /vete/ → vesi 'water' Nom. Sg.
- (iii) /koti/ → \*kosi 'home'

(b) *Sanskrit ruki-Rule* (Kiparsky 1973a)

- (i) s → [+high] / i, u, r, k \_
- (ii) /agni+su/ → agnis≥u 'fire'
- /já+ghas+anti/ → jáks≥ati 'eat' 3.Pl.
- (iii) /kusuma/ → \*kus≥uma 'flower'

(c) *Catalan Devocalization* (Mascaró 1976)

- (i) i, u → y, w / V \_ (in unstressed syllable)
- (ii) /de+u/ → déw 'God'

(iii) /ruin+os/ → \*ruynós 'ruinous'

(3) Rules that do apply in environments

(a) allophonic rules: Aspiration in English

(b) structure building rules: Stress Assignment, Syllabification in English

(4) *The Revised Alternation Condition (RAC)* (Kiparsky 1973a)

Neutralization processes only apply in derived environments.

(5) *Korop Vowel System (Kastlein 1994)*

[ATR]	i	u	[back] [high]
e		o	
E		O	
a			[low]

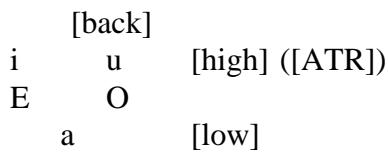
( 6 )      *K o r o p*      *V o w e l*      *H a r m o n y*

(a) V → [ATR] / \_\_ [ATR]

V

- (b) /E+desiN/ → edesiN 'knife'
- /dE+nO:mi/ → dEnO:mi 'is nice'
- /kE+bini/ → kebini 'charcoal'
- /O+kEbE/ → OkEbE 'box'
- /O+nato:n/ → Onato:n 'woman'
- (c) /kO+^Oni/ → \*ko^oni 'saliva'
- /E+wo:ka/ → ewo:ka 'buffalo'
- /bE+tena/ → betena '3Pl-Past-show'

( 7 )    *Z u l u*    *V o w e l*    *S y s t e m*    ( *H a r r i s*    1 9 8 7 ,    *D o k e*    1 9 6 9 )



( 8 )      *Z u l u*      *V o w e l*      *H a r m o n y*

(a) V → [ATR] / \_\_ [ATR]

V

- (b) /phEk+a/ → phEka 'cook (vb)'
- /um+phEk+i/ → umpheki 'cook (n)'
- /On+a/ → Ona 'sin (vb)'
- /is+On+i/ → isoni 'sinner'
- /nO+tS?a:ni/ → nOtS?a:ni 'and grass'
- (c) /izi+ncEku/ → izinceku 'chiefs'
- /ama+gEja/ → amagEja 'hoes'
- /izi+yOni/ → iziyoni 'birds'
- /izi+nyOka/ → izinyOka 'snakes'

(9) I

f potential output ≠ underlying pattern (non-neutralizing rule), then

apply the rule (unless prohibited by an independent cooccurrence restriction)

else

if input = lexical item (non-derived environment), then do not apply  
the rule

else

apply the rule

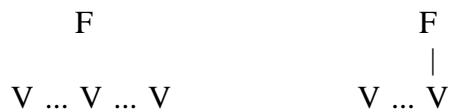
( 1 0 ) \* N E U T R A L I Z A T I O N

No neutralization of contrasts is allowed in morphologically simplex environments.

( 1 1 ) S t r i c t C o n s i s t e n c y C o n s t r a i n t

No elements of a type T (*in casu* association lines) may be added to a form of which the morphological specification contains elements of type T.

(12) a. harmonic root b. d i s h a r m o n i c r o o t



(13) *Polish Iotation* (Rubach & Booij 1990, Rubach 1984)

- (a) t, d, s, z → tS, dJ, S, J / \_ j
- (b) /voz+ji+onc/ → voJonc 'carrying'
- (c) /djalekt/ → \*dJalekt 'dialect'

R e f e r e n c e s

Burzio, L. (1994): *Principles of English Stress*. Cambridge University Press.

Cole, J. (1995): The Cycle in Phonology. In: Goldsmith, J. A. (ed.): *The Handbook of Phonological Theory*.  
B 1 a c k w e l l , p p . 7 0 - 1 1 3

Doke, C. M. (1926): *The Phonetics of the Zulu Language*. Johannesburg: University of the Witwatersrand Press

Hermans, B. & M. van Oostendorp (1995): SCC & OT. Talk presented at the TIN-dag, Utrecht

Harris, J. (1987): Non-structure-preserving Rules in Lexical Phonology. Southeastern Bantu Harmony. *Lingua* 73  
p p . 2 5 5 - 9 2

Iverson, G. K. (1993): (Post)lexical Rule Application. In: Hargus, S. & E. M. Kaisse (eds.): *Phonetics and Phonology, Volume 4. Studies in Lexical Phonology*. Academic Press, San Diego, pp. 255-75

Kastelein, B. (1994): *A Phonological and Grammatical Sketch of DuRop*. MA Thesis, Leiden University

Kiparsky, P. (1973a): *Abstractness, Opacity and Global Rules*. Indiana University Linguistics Club

Kiparsky, P. (1973b): Productivity in Phonology. In: Kenstowicz, M.J. & C.W. Kissoberth (eds.): *Issues in Phonological Theory. Proceedings of the Urbana Conference on Phonology*. Mouton, The Hague pp. 169-176

Kissoberth, C. (1970): On the Functional Unity of Phonological Rules. *LI* 1, pp. 291-306

Mascaró, J. (1976): *Catalan Phonology and the Phonological Cycle*. Cambridge, Massachusetts. Distributed by  
I n d i a n a U n i v e r s i t y L i  
n g u i s t i c s C l u b C l u b  
n g u i s t i c s C l u b

Prince, A. & P. Smolensky (1993): *Optimality Theory: Constraint Interaction in Generative Grammar*. ms. Rutgers University & University of Colorado at Boulder

Rubach, J. (1984): *Cyclic and Lexical Phonology. The Structure of Polish*. Foris, Dordrecht.

Rubach, J. & G. Booij (1990): Syllable Structure Assignment in Polish. *Phonology* 7/1 pp. 121-58

Skousen, R. (1975): *Substantive Evidence in Phonology. The Evidence from Finnish and French*. Mouton, The  
H a g u e

Tuomi, T. (1972) (ed.): *Reverse Dictionary of Modern Standard Finnish*. The Finnish Literature Society