

UNIVERSITY OF CALIFORNIA

SANTA CRUZ

**NONITERATIVITY IS AN EMERGENT PROPERTY OF  
GRAMMAR**

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requirements for the degree of

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in

LINGUISTICS

by

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## Abstract

Noniterativity is an Emergent Property of Grammar

by

Aaron F. Kaplan

Many rule-based theories of phonology include an iterativity parameter so that rules can either be stipulated to apply as many times as possible or restricted to a single application. Optimality Theory cannot replicate this simple device: Constraints that produce iterativity (AGREE, ALIGN, SPREAD, PARSE. . .) do not produce noniterativity with a simple parameter switch. Furthermore, OT's architecture prevents the generation of true noniterativity: In order to determine whether or not a feature has spread just once, for example, the markedness constraint that imposes noniterativity must know the input configuration. But markedness constraints are not allowed to access the input. OT, then, is more restrictive than rule-based phonology on this point and predicts that truly noniterative phenomena—processes defined in part by a noniterativity requirement—should not exist.

This dissertation evaluates whether OT is too restrictive in this prediction by examining five seemingly noniterative phenomena in detail: vowel harmony in Lango, umlaut in Chamorro, tone spread in Chichewa, tone shift in Kikuyu, and postlexical spreading in various languages. The noniterative nature of these phenomena is argued to be a byproduct of a confluence of factors that are not concerned with noniterativity specifically. For example, in Lango and Chamorro,



spreading from affixes to the root is noniterative not because a parameter stipulates this kind of spreading, but because a constraint motivates spreading to the root. Once the root (which is adjacent to the affix) is reached, further spreading is unmotivated. Other factors that can lead to noniterativity are identified. The conclusion is that no noniterative phenomenon requires an analysis that explicitly calls for noniterativity, and thus rule-based phonology is wrong to adopt an iterativity parameter. The implication of this result is that phonological grammars are, as OT asserts, concerned with representations and not the processes that give rise to these representations. The absence of true noniterativity lends support for OT in an area that at first glance presents a strong challenge to the theory.

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