FOOT AND WORD IN PROSODIC MORPHOLOGY: 
THE ARABIC BROKEN PLURAL*

This article proposes a theory of prosodic domain circumscription, by means of which rules sensitive to morphological domain may be restricted to a prosodically characterized (sub-)domain in a word or stem. The theory is illustrated primarily by a comprehensive analysis of the Arabic broken plural; it is further supported by analysis of a number of processes from other languages, yielding a formal typology of domain-circumscription effects. The results obtained here depend on, and therefore confirm, two central principles of Prosodic Morphology: (1) the Prosodic Morphology Hypothesis, which requires that templates be expressed in prosodic, not segmental terms; and (2) the Template Satisfaction Condition, which requires that all elements in templates are satisfied obligatorily.

1. Introduction

The study of the relationship between morphology and phonology has played an important role in recent linguistic investigations. On the one hand, work in the theory of Lexical Phonology speaks to the problem of phonological rule application in the course of a morphological derivation. On the other, the body of research on templatic morphology shows the essential role played by phonological structure in capturing morphological regularities.

The theory of Prosodic Morphology developed in McCarthy and Prince (1986, 1988, forthcoming a, b) advances several proposals about the basic character of phonological structure and its consequences for morphology. Three fundamental theses are:

(i) Prosodic Morphology Hypothesis. Templates are defined in terms of the authentic units of prosody: mora (\(\mu\)), syllable (\(\sigma\)), foot (F), prosodic word (W), and so on.

(ii) Template Satisfaction Condition. Satisfaction of templatic constraints is obligatory and is determined by the principles of prosody, both universal and language-specific.

(iii) Prosodic Circumscription of Domains. The domain to which

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morphological operations apply may be circumscribed by prosodic criteria as well as by the more familiar morphological ones. In particular, the minimal word within a domain may be selected as the locus of morphological transformation in lieu of the whole domain.

We will elaborate considerably on these principles below, focusing particularly on prosodic circumscription.

New developments in linguistic theory often bring illumination to long-standing descriptive problems, while at the same time exposing new difficulties at a more subtle and abstract level. So it is with the Arabic broken plural. In traditional accounts like that of Wright (1971: 191–233), plural formation has all the properties of a poorly understood or perhaps even chaotic process, requiring a dense taxonomy of 31 plural types, each corresponding to as many as 11 singular types. The theory of CV-based templatic morphology has made considerable inroads into this apparent complexity, isolating a small set of formational processes and unifying a fair number of traditionally distinct patterns under a single template (McCarthy 1979, 1981). But, as Hammond (1988) has observed, the standard conception of templatic morphology brings with it a major new liability, the problem of transferring various characteristics from the singular to the broken plural. This fundamental problem turns out to be intractable in CV-template theories, including (as we will show) the one proposed by Hammond.

Prosodic Morphology offers a new perspective on the problem, and it is a goal of this article to demonstrate how the principal features of the broken plural phenomenon follow directly from its characterization in prosodic terms. In particular, it will emerge that the correct analysis of the transfer problem goes hand in hand with a wide generalization over productive plural types. We propose that the central plural-forming strategy of the language parses out an initial minimal word from the base – a prosodically circumscribed domain – and maps the contents of that minimal word onto an iambic foot. The broken plural, then, makes a full, systematic use of the categories and operations provided by the theory of Prosodic Morphology, providing a particularly interesting test case and a robust new source of evidence for the theory.

To secure our empirical claims, we have collected all nouns forming broken plurals in the first half of Wehr (1971), the authoritative English-language dictionary of Modern Standard or Literary Arabic. The data base contains a total of about 3500 singular/plural pairs, when doublets are considered, and should be more than adequate for establishing the actual role and weight of the various patterns. Although most reference