OUTI BAT-EL

STEM MODIFICATION AND CLUSTER TRANSFER
IN MODERN HEBREW

In the formation of Modern Hebrew denominative verbs, two structural properties are transferred from the base to the derived form: the consonantal root and the consonant cluster. While the model of Root-to-Template Association (McCarthy 1981) is largely based on root transfer, it fails to account for cluster transfer. In this paper I argue that the model which can actually account for cluster transfer as well as root transfer is what I will term here Stem Modification (Steriade 1988). Within this model, segmental and prosodic adjustments are made on the base itself and not on some designated material extracted from the base. This approach to stem formation also eliminates the notion of the consonantal root from the grammar of Modern Hebrew.

0. INTRODUCTION

It has been generally accepted that semantic relations among stems in languages such as Arabic and Hebrew are encoded in a consonantal root. For example, the Modern Hebrew words gidel 'to raise', gadal 'to grow', higdiI 'to enlarge', and gadol 'big' are semantically related because they share a morphological unit, the consonantal root, {g, d, l}, and a corresponding semantic unit, 'pertaining to a large size'. The vocalic patterns (and prefixes, if any) are selected independently, on the basis of morphological categories.

The view that the consonantal root is a morphological unit in Semitic languages is structurally expressed by the multi-tiered representation proposed in McCarthy (1979, 1981), where the consonantal root appears on a distinct segmental tier. In a representation of this type, semantically related stems are morphologically related if their consonantal tier is identical. Other properties of the stem, such as the vocalic pattern and the array of vowel and consonant positions (the CV template), do not play a role in determining the semantic relations. The multi-tiered representation, which affords an attractive explanation for the wide range of morphologically conditioned alternations attested in several Semitic languages, is constructed according to the principles of Melody-to-Template Associ-
ation, whereby each morphological unit is independently associated with the template. (When the root is the main concern I refer to Root-to-Template Association.)

Bat-El (1986) adopts this model in her analysis of Modern Hebrew denominatives. Given a fully specified base form, the derivation involves two stages: (i) Extraction: the consonants are extracted from the base, preserving precedence relations; télégraf ‘telegaph’ \[\text{Extraction} \to \{t, l, g, r, f\}\], and (ii) Root-to-Template Association: the extracted consonants are associated with a given template plus vocalic pattern; \(\{t, l, g, r, f\} + CiCCC CeC \to \text{Association} \to \tilde{tgref} \to \text{to telegraph} \). This method of derivation implies that the only structural information transferred from the base to the derived form is an ordered string of consonants.

It appears, however, that the information transferred from the base to the derived form is not only the order of the consonants, but also which consonants occupy adjacent positions in the base, i.e., whether they form a cluster. For instance, from the base praklit ‘lawyer’ we get priklet ‘to practice law’ (*pirklet), but from the base sandlar ‘shoemaker’ we get sindler ‘to make shoes’ (*snidler). This clearly shows that adjacent consonants in the base remain adjacent in the derived form. The problem is to find a formal way to account for what intuitively appears to be a general tendency. Extraction plus Root-to-Template Association cannot account for this phenomenon as it is not equipped to transfer information about clusters, because the moment the consonants are extracted, access to the base is lost. The choice between the templates CCVCCVC (priklet) and CVCCCVC (sindler) would therefore need to be lexically marked. This marking, however, is unnecessary if the template of the derived form is dictated by the base template.

Stem Modification is an alternative theoretical model which can account for generalizations about morphologically conditioned alternations since it allows for internal stem adjustments. It is introduced in Steriade (1988) as the appropriate analysis of reduplication and in McCarthy and Prince (1990) as a strategy to account for some types of transfer in Arabic broken plurals and diminutives. The advantage of Stem Modification is that it allows direct access to the base throughout the derivation. Thus, when this model is adopted for the formation of Modern Hebrew denominatives,

---

5 In pretheoretical terms the structural relation of gadal – gidel – godel is not very different from that of sing – sang – song, as both cases involve morphologically conditioned vocalic alternation. It seems that what the Indo-Europeanists call Ablaut is what the Semitists call Melody-to-Template Association. It should be noted that Heath (1987) uses the term Ablaut in his account of a Moroccan Arabic dialect, but in a somewhat different sense, as he himself indicates.