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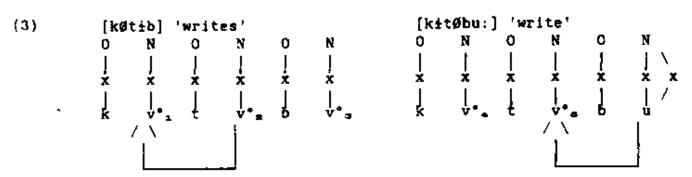
## Proper Government, the Cold Vowel [ + ] and Portuguese

A number of languages display an interesting array of vowel - # alternations. Morrocan Arabic, French, Slavic languages, Yawelmani and European Portuguese are but a few examples of languages displaying this phenomenon. Recent work in Government-based (Gb) phonology provides a theoretical background in which this phenomenon may fruitfully be studied. Concretely, the notion of proper government, i.e. the type of government required to license empty nuclear positions appears to offer a satisfactory account for an interesting number of cases. Proper government may be defined as possible.

- (1) A nuclear position  $\alpha$  properly governs a nuclear position  $\beta$  iff
  - a is adjacent to β on its projection.
  - 2. a is not itself licensed.
  - 3. Not governing domain separates  $\alpha$  from  $\beta$ .

Proper government is directional and parameterised. It may be right to left or left to right depending on the linguistic system. Using the notion of proper government we can now define a phonological Empty category principle (ECP).

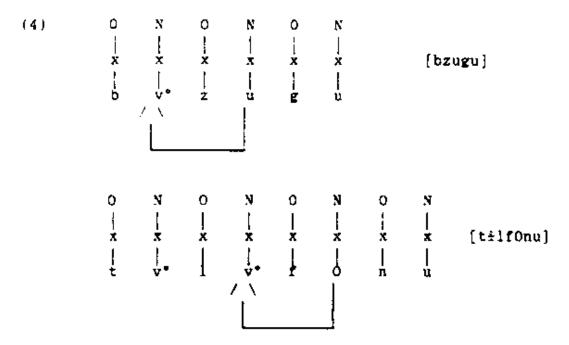
(2) A properly governed empty nucleus has no phonetic realisation. Gb phonology has a designated element, the cold vowel.  $v^* = \{\frac{1}{2}\}$ , which occupies a position with no other segmental content. What this means is that in the unmarked case the cold vowel will appear as  $[\frac{1}{2}]$  when it is <u>not</u> properly governed and as a phonetic null when it is. Two examples from Moroccan Arabic will illustrate these ECP effects.



Moroccan Arabic licenses final nuclei  $(v^*_n)$  and so they cannot be proper governors. In the first example  $v^*_n$  has no proper governor and thus must be realised phonetically. It can properly govern  $v^*_n$  which then has no phonetic content. In the second example, the final vowel is not licensed and can thus

properly govern the empty nucleus to its left  $(v^*_s)$  but now  $v^*_s$  is licensed and cannot serve as a proper governor for  $v^*_s$ . This latter vowel must be realised phonetically

Similar analyses are available for French schwas, Slavic yers and Yawelmani i's. What is of interest here is that European Portuguese displays precisely the same behaviour. This is illustrated below.



These analyses will be discussed in detail in the course of our presentation.