Bisyllabic, partially reduplicated words in classical Chinese fall under two major categories: i-words and r-words. An i-word consists of syllables which share the same initial (bi-ba), whereas an r-word consists of syllables which share the same rhyme (buk-su). Unlike partial reduplication of the more familiar type, partially reduplicated words in classical Chinese show no fixed segmental shape. An important property of such words is the tone pattern: if the two component syllables differ by only one segment, then they bear the same tone. The proper analysis of such data supports 1. the hierarchical structure of the syllable; 2. total copying in partial reduplication; and 3. the rime as the tone-bearing unit. In addition, the data show that the syllabic position of the medial glide in classical Chinese is indeterminate.

0. INTRODUCTION

Classical Chinese contains a large number of disyllabic words composed of syllables which share some common phonological material. Two specimens appear in (1).

(1) a. ʔu T1 - du T1  'tiger'
   b. p'ən T1 - p'at T4  '(of rain) heavy'

In (1a), the two syllables have the same rhyme, u T1, but different initials, ʔ and d. In (1b), they share the same initial, p', but different rhymes, ap T1 and at T4.\(^1\) Typically, such disyllabic, partially reduplicated words cannot be further decomposed, and many of them have variant written forms. They are not restricted to any morphological category. Among the nominal expressions, many are names of animals (such as those in (1a)) or plants. Often, their etymological origin is obscure, and they come into the Chinese language throughout its history.

The proper analysis of the partial reduplication data in classical Chinese has implications for theoretical issues of reduplication, syllable structure, and the representation of tone and the tone bearing unit. In this paper I investigate the formal properties of the kind of data exemplified in (1), and show that (i) partial reduplication must involve total copying; (ii) syllable structure is hierarchical; and (iii) tone is adjoined directly to the tone bearing unit without the skeleton (x-slots or CV templates) playing a mediating role. The syllable structure I argue for is shown in (2) (O: syllable; O: onset; R/R'/R"; rime projections; G: glide; N: nucleus; Co: coda; T: tone):
I will show that a flat syllable structure, most forcefully argued for in Clements and Keyser (1983), is inadequate to handle the partial reduplication data in classical Chinese. Perhaps the most startling property of the syllabic hierarchy shown is the recursion of the rime node (Harris (1983), Levin (1985)). The adjunction of tone (T) to rime (R), the tone bearing unit, creates an autosegmental tier on the syllabic plane (for the distinction between tiers and planes, see Archangeli (1985), Steriade (1986), Prince (1987), McCarthy (1989)). I will show that a structure in which tone is represented on its own autosegmental plane fails to explain the tone patterns that emerge from the partial reduplication data in classical Chinese.

The paper is organized as follows. In section 1 I discuss the patterns of partial reduplication, establishing the generalizations which govern the relationship between segments and tones of partially reduplicated words; in section 2 I give the analysis; in section 3 I discuss the syllabic position of medial glides and show that they are structurally indeterminate; in section 4 I discuss cases problematic for the proposed analysis; and the conclusion is in section 5.

1. TYPES OF P-WORDS

A note on the collection and treatment of the data is in order. The main part of the data is collected from Wang (1968), which contains some 1,000 partially reduplicated words collected from classical writings; 45% of them are i-words, the rest are r-words. Additional data are collected from Fu (1960), Ju (1960) and Chou (1962). The latter two are exhaustive studies of all reduplicated words from the Book of Odes, believed to have been edited by Confucius. From Fu (1960) I collected words which denote birds (characters with the ‘bird’ radical), animals (‘animal’ radical), fish (‘fish’ radical), insects (‘insect’ radical), plants (‘tree’ and ‘bamboo’ radicals), and weeds (‘grass’ radical). For obvious reasons the data from the various sources overlap. Where appropriate, the data are transcribed in the sound system of the Guangyun, a dictionary compiled around 1000AD, as reconstructed by Wang (1958). Words which are transcribed to reflect a period