## A Typology of Stress, And Where Malay/Indonesian Fits In David Gil

The position of lexical stress in Malay/Indonesian has traditionally been described in at least three different ways: (a) always penultimate (eg. Amran 1984); (b) always final (eg. van Ophysen 1915); and (c) penultimate, except when the penult is a schwa, in which case it is final (eg. Kähler 1956). In a couple of recent papers, Tadmor (1999, 2000) provides an extensive survey of these various descriptions, and argues that the differences are due, at least in part, to different authors describing different regional or sociolinguistic varieties of Malay/Indonesian. In addition, however, he proposes, for some varieties of Malay/Indonesian, yet a fourth description of the facts, to the effect that lexical stress is simply absent. A similar description, denying the existence of lexical stress, is also proposed for other varieties of Malay/Indonesian in Gil (2003, 2006).

Building on the studies by Tadmor and Gil, this paper argues that the true picture of lexical stress in Malay/Indonesian is actually more complex than suggested in previous work. Specifically, for the description of a given language variety, it is not sufficient simply to state whether it has lexical stress, and, if it has, on which syllable it falls. Instead, this paper proposes a universal typology of lexical stress, providing a descriptive framework within which the lexical stress of individual language varieties, Malay/Indonesian or other, may be characterized.

The typology consists of six characteristic features. First, within a given language, there may be more than one stress system, each with its own distinctive properties. This yields the first parameter of the typology:

(1) SystemsHow many distinct systems of stress there are [0,1,2,3...]

Within a given language, each stress system is defined by two additional parameters:

(2) *Domains* 

What phonological domain bears stress [mora / syllable / foot...]

(3) *Positions* 

Which instance of the stress-bearing domain within the word bears stress [phonemic / rule governed; if rule governed, weight sensitive / linear order; if linear order, 1/2/3 from beginning/end]

In addition, each stress system is characterized by a set of distinct realizations:

(4) *Realizations* 

How is stress realized on the domain that bears stress in the word [suprasegmental prominence of stressed unit (pitch contour / pitch / duration / intensity); rhythmic processes referring to stressed unit (eg. "stress timing"); phonological reduction or deletion of unstressed units; grammatical processes referring to stressed unit; and others]

Finally each realization of a stress system is characterized by two further properties:

(5) *Levels* 

How many distinct levels of stress are present [2/3/4...]

(6) *Modalities* 

Under what conditions is stress realized on the stress-bearing unit [obligatorily / optionally; if optionally, conditioning factors are rhythmic / phonological / grammatical / pragmatic]

The above typology preserves the basic understanding of lexical stress as involving the characterization of one particular phonological unit in the word as being of greater prominence that other phonological units of the same type within the same word, while generalizing the notion of stress in a number of ways. Specifically, the above typology goes beyond most traditional definitions of stress in, among others, the following respects: (i) a given language may bear simultaneous host to several stress systems with distinct properties (1); (ii) the stress-bearing unit need not necessarily be the syllable, instead it may be the mora or the foot (2); (iii) the prominence of the stress-bearing unit need not necessarily be reflected by the usual suprasegmental features (pitch, duration, intensity), instead it may be reflected by a variety of phonetic, phonological and grammatical features (4); and (iv) the prominence of the stress-bearing unit need not be manifest in each and every occurrence of the word, but instead may be optional, dependent on the environment in which the word occurs (6).

The proposed typology of stress is illustrated with reference to two colloquial varieties of Malay/Indonesian: Riau Indonesian and Papuan Malay. Whereas the conventional wisdom for Malay/Indonesian speaks of a geographical cline from final-stressed varieties in the west to penultimate-stressed varieties in the east, the proposed typology shows that the differences between Riau Indonesian and Papuan Malay are considerably more complex and multifaceted, pertaining to most or all of the 6 basic features enumerated above.

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