1 Introduction

Languages display a variety of patterns in the suprasegmental features of words. Two concepts that researchers agree are important, but for whom clear definitions are elusive, are “tone” and “stress.” Let’s try and come up with some ideas ourselves:

- What is stress?

- What is tone?

- What is a “stress language”?

- What is a “tone language”?

- What do these classifications buy us?
2 An Example

Here are some data from Toyama Japanese, a dialect spoken in central Japan and for which, to my knowledge, little (generative) literature exists. All data are from my elicitations with a native speaker.

The following broadly approximate pitch values of morae (vowels and in certain contexts the moraic nasal /N/) can show pitch contrasts), with L representing a relatively low pitch value and H representing a higher one. As Japanese languages are generally analyzed as moraic, I have marked mora boundaries with periods, although the mora is not necessarily the only important prosodic constituent in Toyama Japanese:

(1) L H L (2) L H L (3) L H L (4) L H L (5) L H L
   te.re.bi me.ga.ne mo.ja.ʃi zu.bo.N mi.ka.N
   ‘television’ ‘glasses’ ‘bean sprouts’ ‘pants’ ‘mandarin’

(6) L H (L) (7) H L L (8) H L L (9) H L L L
   ne.ko (ga) de.Nʃa bo.o.ru ko.o.hi.i
   ‘cat (NOM)’ ‘train’ ‘ball’ ‘coffee’

Based on this limited data set, what generalizations can we make about the word-prosodic system of Toyama Japanese? Is it a “stress” language? Is it a “tone” language?

There is a further complication: nouns either follow the above pattern or the one represented by the following data:

   to.ya.ma ka.ba.N so.ba (ga) jo.o.ʃu.ku ta.N.bo
   ‘Toyama’ ‘bag’ ‘noodles (NOM)’ ‘clothing’ ‘rice field’

What problems does the pattern in (10)–(14) present?
Just for fun, here are some interesting exceptions to the pattern found in (1)–(9):

(15) H L L (16) H L L (17) H L (L) (18) H L (L)
ra.dʒi.o  i.tfį.go  ju.kį (ga)  na.tsu (ga)
'radio'  'strawberry'  'snow (NOM)'  'summer (NOM)'

3 Pitch Accent

The term “pitch accent” is often used for languages which, like Japanese, seem to share features with both “stress” and “tone” languages. Here are some more examples of languages considered as having “pitch accent”:

• Basque (Spain, isolate): according to van der Hulst (in prep., citing Gussenhoven 2004) Lekeito Basque places an LH contour on the penultimate syllable of accented words. Unaccented words exist, although they are in the minority.

• Karue (Irian Jaja, New Guinea, Kaure): Kaure has a high /H/ and falling /HL/ pitch contrast “constrained so that it appears only on the stressed syllable, of which there can be only one per word” (Donahue 1997, p. 370, citing Dommel & Dommel 1991). In the (few) data presented, there were no unaccented morphemes.

• Swedish (Germanic, Sweden): Swedish tone is also restricted to stressed syllables (Hyman 2009).

• Copala Trique (? , Mixtecan): Copala Trique has a 5-toneme contour tone contrast, but this is only available on the final syllable of morphemes (Hollenbach, 1988).

How much do these languages have in common? Are they similar enough to fit into the same category?
4 How Not to Do Typology

Hyman (2009) summarizes the features of a word-prosodic system that will tend to lead to its characterization as a “pitch accent” system:

(19) a. obligatory (“at least one per word”)
   b. culminative (“at most one per word”)
   c. privative (eg. /H/ vs. /∅/ rather than /H/ vs. /L/)
   d. metrical (eg. positionally restricted, subject to reduction/subordination in compounding or when out of focus)

(Hyman 2009, p.220, his (9))

He then mounts an argument against the notion of “pitch accent” by giving examples of languages that clearly fit into the “tonal” category but also share one or more of the properties in (19). I will not repeat all of them here, but I will go over one of his examples.

4.1 Chuave

The following are the possible pitch contours for one-to-three syllable words in Chuave, a language of New Guinea (data from Donahue, 1997):

(20) Possible Pitch Contours for Chuave Words:

\[
\begin{array}{cccc}
H & HH & HL & LH \\
\text{HH} & \text{HL} & \text{LH} & \text{HHH} \\
\text{HHL} & \text{HLL} & \text{HLH} & \text{LLH} \\
\text{LHL} & \text{LHH} & \\
\end{array}
\]

Would you consider this a tone language? What distributional restriction does it seem to have?
4.2 Hyman's Conclusion

Given the heterogenous group of languages in the “pitch accent” category, and that the tentative features in (19) can all be exhibited by clear tone systems, Hyman concludes that there is no use for such a label. In fact, he goes so far as to say there is little use for any labels, and that it is the properties that are important:

“The questions we should ask therefore are:

Which languages have word-level metrical structure (“stress”)? What are its properties?...

...Which languages have word-level pitch features (“tone”)? What are its properties?”

(p.234)

While delineating these properties is beyond the scope of his paper, the following are some of the properties that he (and others) have imputed to ‘stress’ and ‘tone’ languages:

\[
\begin{align*}
(21) & \quad \text{a. Culminativity} & \quad \text{b. Obligatoriness} & \quad \text{c. Metrical structure} & \quad \text{d. Enhancement of phonemic contrasts} & \quad \text{e. Amplitude as cue} \\
& \quad \text{‘Stress’} & \quad \text{‘Stress’} & \quad \text{‘Stress’} & \quad \text{‘Stress’} & \quad \text{‘Stress’} \\
(22) & \quad \text{a. Spreading} & \quad \text{b. Mora as TBU} & \quad \text{c. Featural representation} & \quad \text{d. Every TBU is specified for tone} & \quad \text{e. Pitch as cue} \\
& \quad \text{‘Tone’} & \quad \text{‘Tone’} & \quad \text{‘Tone’} & \quad \text{‘Tone’} & \quad \text{‘Tone’}
\end{align*}
\]

Crucially, Hyman seems to be arguing against a method of typology which uses these properties to define ‘prototypes’ of stress and tone languages, and instead hypothesizes that languages are able to freely pick and choose among the properties in (21) and (22).

For example, which properties in (21) and (22) does English word prosody exhibit? How about Toyama Japanese? Chuave?

5 Restricting the Typology

While I agree with Hyman that typology should be property-driven, I disagree with his (tentative) assertion that word prosodic properties such as in (21) and (22) are completely indepen-
dent of each other. Can you think of a bad prediction of this hypothesis?

Related to this problem is acquisition, which I see as another explanatory goal of typology. We would expect that some properties imply each other; otherwise, a child learner will be forced to determine a language’s value for every property. On the other hand, as the distribution of properties Hyman has shown us suggests, it is unlikely that a child (subconsciously, of course) asks his or herself “Is this a stress, tone, or pitch accent language?” when going about the task of acquiring a word-prosodic system.

In the introduction to his survey of the word-prosodic systems of New Guinea, Donahue (1997) notes that the “High-Low vs. Low-High contrasts represented by bgóda and pgadó in Sikaritai, tuhi and pikú in Kairi, bita and bitá in Una... [represent] quite different phonological systems” (p. 348). What exactly is it, then, that disambiguates the systems? What questions are children of a particular language asking themselves such that they all converge to a similar phonology?

My belief is that these questions should also help drive the typology, and thus as typologists we should not only look at the range of properties available but as theoreticians look for interdependencies in these properties in order to come up with the most accurate models possible.

Selected Bibliography


