1972

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Recommended Citation

Pittman, Richard S. (1972) "The six common modes of voice register phonology," *Work Papers of the Summer Institute of Linguistics, University of North Dakota Session*: Vol. 16, Article 6.

DOI: 10.31356/silwp.vol16.06

Available at: <https://commons.und.edu/sil-work-papers/vol16/iss1/6>

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The Six Common Modes of Voice Register Phonology

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1. Voice-register theory can account fully for genetic relationship problems between monosyllabic, polytonal languages and polysyllabic, non-tonal languages. Dale Purtle's "Tone from Vowel Register" paper, read at the December 29, 1968 meeting of the Linguistic Society of America in New York, and based on numerous comparisons between tonal and non-tonal languages of Asia, took phonology theory very far along the road to reconciliation between tonal and non-tonal languages.

J.M. Stewart's "Tongue-root position in Akan vowel harmony", published a year earlier and unknown to Purtle, although not seeking to accomplish the same purpose, contributed nevertheless another striking insight for the uniting of these two previously incompatible language types. Building on both, the present author submitted for publication, in December 1971, a manuscript entitled "Further developments in voice-register theory from descriptions of languages of South and Southeast Asia."

2. Two voice registers times each syllable of a tri-syllabic root gives eight possible prosodic patterns. Assuming the longest natural word-root common to polysyllabic languages -- three syllables -- and the maximum number of registers -- two for each syllable -- expected in voice-register languages, the total possible number of prosodic patterns which result is $2 \times 2 \times 2$. which equals eight. This is the theoretical

ceiling for most tone languages of the world. True there are a few which have more, but the "extra" tones are not difficult to explain.

3. Harmonic theory however gives six rather than eight as the expected maximum range of tone patterns for a tri-syllabic root.

Arthur H. Benade, quoting a 1755 work by Daniel Bernoulli, came up with a curious contradiction to the expected eight-tone maximum.

When three beads on a string are set vibrating in such ways as to give the harmonic wave motions so familiar to students of music theory, four of the resultant patterns are just what would be expected also in voice register theory: HHH (for high-high-high), LLL (for low-low-low), HLH, and LHL. But beyond this there are only two for music (versus the expected four for voice-register), and the two do not agree with the four. The two other modes for the musical vibration of three-beads-on-a-string are high-mid-low and low-mid-high.

4. Purtle's evidence agrees more with music theory than with voice-register theory. At this point a curious "contradiction" seems to be resolved. While writing about eight-tone languages of Asia as though these were the norm, all sixteen of the languages on Purtle's (1968) tone charts are shown as being driven from six-tone norms. And this for four different language groups: Chinese, Tai, Miao-Yao and Vietnamuong. When asked for an explanation he says that tones 7 and 8 are identical with two of the other tones except for having final stops while the tones with which they are identical do not.

5. Summary. While a two-register three-syllable pattern gives eight possible tones if all combinations are realized, the high-low-low

and high-high-low are quite apt to develop in theory, as high-mid-low, while the low-low-high and the low-high-high may show up as low-mid-high.

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