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APPENDIX

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SUPPLEMENT

Tenseness and Laxness

ROMAN JAKOBSON and MORRIS HALLE

In discussing the opposition of the so-called tense and lax vowel classes, particularly the distinction between the tense /i/ and /u/ and the lax /ɪ/ and /ʊ/, Daniel Jones states that the reference to the different degrees of muscular tension on the part of the tongue is inadequate. 'A description of the English short [i] as a vowel in which the tongue is lowered and retracted from the "close" position is generally sufficiently accurate for ordinary, practical work. The term "lax" may also be used to describe the organic position of the English short [u] (in *put* /put/) as compared with the long "tense" [u:] in *boot* /bu:t/). Here the organic characteristics of short [u] as compared with long [u:] might be more accurately described as a lowering and advancement of the tongue and a wider opening of the lips.'¹ This lowered and *retracted* [i] and the lowered and *advanced* [u] along with all other lax vowels, as observed by Carl Stumpf, 'shift toward the middle of the vocalic triangle'.² Any lax vowel 'liegt stets mehr nach der Dreiecksmitte zu' than the corresponding tense vowel (p. 262). Hence, as was noted by Gunnar Fant and ourselves³ a tense vowel compared to its lax counterpart is produced with a greater deviation from the neutral position of the vocal tract, i.e. from the position that the vocal tract assumes in producing a very open [æ]; consequently a tense vowel displays a greater deviation from the neutral formant pattern.⁴

In the chapter 'Vowels' in his 'Handbook of Phonetics' (1877), Henry Sweet declared that 'the most important general modifications are those which cause the distinction of narrow and wide' (since renamed 'tense' and 'lax'). Sweet succeeded in demonstrating the autonomy of each of these two series 'from high to low' and the possibility of a division of any vocalic class into pairs of tense and lax vowels. In the following we shall differentiate these two series by employing the exponent ¹ for tense vowels, and the exponent ² for lax vowels, a device that has often been used in dialectology.

This autonomy of the tense-lax distinction is clearly exhibited by those African languages which display vowel harmony based on the opposition of tense and lax. Thus in Bari with its five tense and five corresponding lax vowels – /u¹/, /o¹/, /a¹/, /e¹/, /i¹/, and /u²/, /o²/, /a²/, /e²/, /i²/ – 'a word with a tense vowel in the stem will have a lax vowel in the prefix or suffix': cf. /to¹-gi¹rja¹/, *to make wipe*, and /to²-gi²rja²/, *to cause to cicatrize*.⁵ Likewise in Maasai, stems consist either of tense

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