be involved in the continuity effect. Ingham (1959) has examined the differential masking effect of a tone upon another tone in the opposite ear when the frequency separation of the tones was varied. He found that the masking effect decreased as the frequency separation of the tones increased. However, Ingham used a simultaneous masking technique whereas the continuity effect would necessarily entail forward and backward masking. Because of the low sensation levels employed (30 dB masking signal) Ingham suggests a central neural mechanism must be operating in cross-ear masking effects. Likewise, Thurlow and Elfner (1959) suggest a central mechanism to explain continuity effects. The results of the present study provide further support for such an explanation.

Some neurophysiological evidence for a model of binaural interaction that could explain the above effects has been reported by Rupert et al (1966). They studied neural response patterns of medial superior-olivary units (MSO) to auditory stimuli under both monaural and binaural stimulation. Their model assumes that "corresponding portions of the basilinear membrane of each ear are functionally represented at the same site within the MSO in as much as results obtained with tonal stimuli suggest a convergence of fibers upon MSO cells that produce interactive effects best when the frequencies to each ear are the same." The maximum enhancement of the continuity effect which occurs when the alternating signals are close in frequency, and the similarity of the frequency effect on continuity under monaural and dichotic presentation appear consistent with the above model.

The effect of frequency of the interpolated signal on continuity in a white noise signal is not clear. The typical result is to find significant frequency effects only under monaural listening procedures. Most of the differential effect of frequency on continuity in white noise seems to be a function of frequencies in the neighborhood of 1000 cps (Elfner & Homick, 1966). The results of preliminary work employing restricted bands of noise alternating with tonal burst indicate that continuity in a tonal signal is enhanced when its frequency is centered in the noise band with which it alternates as opposed to being removed from that of the noise band. However, at this time, no simple explanation of the effect of frequency of a tonal burst on continuity of an alternating background noise is apparent.

References

Elfner, L. F., & Caskey, W. E. Continuity effects with alternately sounded noise and tone signals as a function of manner of presentation. *J. Acoust. Soc. Amer.*, 1965, 38, 543-547.

Elfner, L. F., & Homick, J. L. Some factors affecting the perception of continuity in alternately sounded tone and noise signals. *J. Acoust. Soc. Amer.*, 1966, in print.

Ingham, J. G. Variations in cross masking with frequency. *J. exp. Psychol.*, 1959, 58, 199-205.

Thurlow, W. R. An auditory figure-ground effect. *Amer. J. Psychol.*, 1957, 70, 653-654.

Rupert, A., Moushegian, G., & Whitcomb, M. A. Superior-olivary response patterns to monaural and binaural clicks. *J. Acoust. Soc. Amer.*, 1966, 39, 1069-1076.

Winer, B. J. *Statistical principles in experimental design.* New York: McGraw-Hill, 1962.

Note

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Erratum

STONE, H., & OLIVER, SHIRLEY M. Beidler's theory and human taste stimulation. Percept. & Psychophys., 1966, 1, 358-360.—The article referred to on page 359, column 2, paragraph 3, fourth line from the end was omitted from the bibliography. The reference was: Amerine, M. A., Pangborn, R. M., and Roessler, E. B. Principles of sensory evaluation of food. New York: Academic Press, Inc., 1965, pp. 63-64.