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## The Theory of Binaural Beats - An Experimental Contribution

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## THE THEORY OF BINAURAL BEATS—AN EXPERIMENTAL CONTRIBUTION.

G. W. STEWART AND HAROLD STILES.

*(ABSTRACT.)*

The experiments here reported were performed in order to secure evidence concerning the cause of the additional maxima which occur in binaural beats. (See G. W. Stewart, *Physical Review*, Series 2, 3, p. 146, 1914, for a description of the phenomena.) These additional maxima occur at certain phase differences, and the change in these phase differences should depend upon the frequency of the tones, but not upon the frequency of the beats. If the additional maxima are caused by interaural conduction then, as it can be shown, the phase differences should vary as the frequencies. In the accompanying curve the phase differences, shown as fractions of  $\pi$ , are the ordinates and the frequencies, abscissae. Instead of a straight line which should obtain in the case of interaural conduction, we have a curve which is far from a straight line. (See Plate III.) The numbers in parentheses indicate the number of observations used in obtaining the position of the point. Five frequencies were used.

After much consideration of theories involving interaural conduction, none seems to be in agreement with the evidence here shown.

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## ON THE LYMPHATIC SYSTEM OF THE COMMON RAT.

*(Epimys norvegicus)*

THESLE T. JOB.

*(ABSTRACT.)*

From fifty injected specimens, the gross anatomy of the Common Rat has been studied and outlined. The results of the work have further proven the studies of McClure and Silvester on the Lymphatico-venous communications in the Jugulo-subclavian district, and of Silvester on the renal vein communica-