

## A Dichotic ABX Procedure for Use in Laterality Studies\*

One difficulty encountered in laterality studies employing dichotic presentation of non-speech stimuli or stimuli which do not have linguistic tags is that the subject cannot easily respond in a way that indicates which of the two ear channels dominate. One possibility is to train the subject to label the stimuli first; then ask him to respond with labels in the dichotic situation. Another, perhaps simpler method is to modify the ABX technique used in discrimination testing in the following manner. Present A and B in the usual binaural fashion followed by X consisting of simultaneous presentation of A in one ear and B in the other. The subject's task is to indicate whether X is more like A or B. His answer would presumably indicate which ear is dominant.

To test the feasibility of this procedure, a pilot study was carried out using as stimuli the second formant transition of /ba/, /da/ and /ga/. These stimuli were produced on the Haskins synthesizer and were all of the same duration (60 msec) and same over-all intensity. A test tape was constructed which contained 6 random sequences of all possible ABX triads of the three stimuli. Six practice triads were included at the start of the tape followed by the 72 test items.

Eighteen right-handed listeners with no previous experience with synthetic speech sounds served as subjects. Instructions were to listen carefully to each triad and judge whether X was

more like A or B. Subjects were not lead to expect speech sounds. The stimuli were presented at a comfortable listening level over Sharpe headphones which had previously been calibrated with test tones also produced on the synthesizer. After completing the 72 test items, the channels to the headphones were electrically switched and the test was run again.

The results indicated no over-all significant difference between the ears in assigning X to A or B. Of the 144 items, an average of 74.3 were right ear responses. However, a correlation between first half and second half of the test was .74, significant at the .05 level and indicating that most subjects remained either right or left ear responders on both halves of the test. It appears, then, that although the group as a whole showed no ear preference, individuals were fairly consistent in mode of responding. Further studies are planned using both the dichotic ABX material and speech stimuli on the same subjects.

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