

2864

"Areas of lowered acuity" in relation to quantitative tests on bone and air-transmitted sound.**A. G. POHLMAN and F. W. KRANZ.**

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Adult individuals often show an area of decreased acuity for air transmitted sounds in the range between 2400 and 3000 pps. in the auditory field of frequency. Such ranges of decreased acuity are often sharply defined and may require a stimulus up to 500 or 1000 times the normal minimum to elicit response. This finding might be explained by almost any of the numerous theories of end organ behavior on the basis of a local defect in the basilar or tectorial membranes.

The first subject of the series of the present investigation showed a bilateral defect in this frequency range which is known to have been constant for the past four years. When tested with the bone activating telephone receiver, this individual showed a decreased bone acuity through the same range of frequency. The second subject has had a unilateral defect in air acuity for at least five years, and on testing with the bone activating telephone it was found that he also showed a defect in bone acuity. The third subject displayed no lowered air acuity through this range but did show a decreased bone acuity similar to the two previous cases. Four more subjects with normal air acuity did not show the bone acuity defect. In order to eliminate the possibility of any influence of the particular bone activating receiver on the results, the tests were repeated with another instrument of different construction and the above results were verified. The same results were obtained on repetition of the tests. All bone acuity tests were made from the forehead.

The findings will be discussed in detail in the Laryngoscope.

The report is of peculiar significance because the defect which might have been interpreted in terms of internal ear reaction if occurring in both bone and air acuity, cannot be so interpreted because it can occur in the bone acuity without being present in

the air acuity. We can offer no explanation for it, but the demonstration of this effect in the sound transmission apparatus is a serious obstacle to the differential diagnosis between a conduction and a perception deafness.