

## LETTER TO THE EDITOR

TO THE EDITOR,

*The Journal of Laryngology and Otology.*

SIR,—In his letter which you publish in the May issue of the Journal, Dr. Hallpike brings forward his arguments in favour of the use of decibels for expressing the results of tests of hearing. In the first place it is clear that Dr. Hallpike is prepared to go considerably further than the physicists who are accustomed to employ the decibel, and in the second place he advocates the decibel even if otologists in using it forget its nature.

I beg leave to set down the arguments why the decibel should not be used by otologists.

1. When two sounds differ by one decibel, the logarithms which represent their intensities differ by  $\text{Log. } 0.1$ . A decibel is therefore a difference between two logarithms. Otologists are not accustomed to employ logarithms and may not wish to learn their use.

2. One decibel was originally thought to record the value of the least difference in intensity that can be recorded by the human ear. Investigation proved that this was not the case for every pitch. The decibel as a sensation unit therefore does not exist and, if this is the case, there is no such thing as a decibel in otology. The decibel is in fact a physical unit and is as essential to the physicist as it is useless to the otologist. It is in fact very like the therm employed by gas companies, handy for them and of no use to the consumer who only wants to know how long the kettle takes to boil.

3. If we attempt to forsake the physical or logarithmic unit and still retain the name of the decibel, the best that we can do is to quote the value of a given number of decibels as the amount by which the intensity of sound will have increased at compound interest at the rate of 25.89 per cent. Otologists cannot, when testing, do sums in compound interest, but they are saved the trouble by the unit that the Committee recommend in the following way. If a sound decreases in intensity at a rate of one decibel a second, its intensity is halved in 3.01 seconds. It is near enough if we say three seconds. This is the time in which the intensity of the sound has been reduced to one half, i.e. the half intensity period which the Hearing Tests Committee on the advice of physicists recommend for the expression of the results of tests of hearing.

Why, then, employ decibels to please the physicists when they do not wish otologists to use this unit on account of its unsuitability? The tests of hearing form but a small part of the work otologists

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have to do and the simplest adequate method of expression is the best. Dr. Hallpike seems to suggest in his critical review that the objection to the half intensity unit is that it is new. It is in fact far older than the decibel.

I am, Sir,

Yours faithfully,

A. LOWNDES YATES.

## REVIEWS OF BOOKS

*The Medical Annual: A Year Book of Treatment and Practitioners' Index, Fifty-first Year.* 1933. pp. 628. Bristol: John Wright & Sons, Ltd. London: Simpkin Marshall, Ltd. Price 20s.

The Medical Annual continues in its undeviating course towards exhaustiveness in the presentation of the important recent publications in all branches of medical science and art. The contributors are among the most highly qualified for the task and every habitual reader will acknowledge that they have carried it out in every way as well or even better than ever. Mr. Wright has handed over the sections on our speciality to Mr. Watkyn-Thomas who has shown how vigorously he can carry on the torch with which he has been entrusted. Those who are familiar with Mr. Watkyn-Thomas's work will look for, and recognise, his powerful grip and his untiring conscientiousness. Among the most interesting subjects is, of course, that of malignant disease of the air- and food-passages and the views of Trotter and those of Harmer are given in abstract with great lucidity (pp. 16-19). Stanford Cade deals with the subject very fully and refers to the remarkable sensitiveness to irradiation in some growths of the fauces and pharynx which in other respects are intensely malignant (p. 91, etc.). The contrast in the results in tonsillar cancer treated by the old method and in those treated by the new mass radium method at the hands of Ellis G. Berven are most striking. Diseases of the larynx are dealt with with laudable thoroughness. Sir St Clair Thomson pleads for permanent tracheostomy in laryngeal stenosis, that it is a source of comparatively little social disadvantage although, of course, the patient "cannot swim". A fall overboard would be accompanied by very serious disadvantages and even a slip in a bath might be dangerous, wherefore every means should be adopted to restore patency to the natural passages when possible and practicable. We are indebted to Howarth for putting chordectomy and similar operations to the test (pp. 262-3). The reviewer's case of laryngeal stenosis produced by lymphatic leukæmia is quoted among the rarities. That