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ART. XL.—*On the Differential Stethoscope or Stethophone.* By W. MARSDEN, M.D., Quebec.

Upwards of a year since a gentleman lent me the following interesting paper on the "Differential Stethophone, and some new phenomena observed by it," which will be found in the 9th Volume of the Transactions of the Royal Society, page 196, and was read on the 22nd April, 1858. It is from the pen of S. Scott Alison, M.D., Assistant Physician to the Hospital for Consumption, and was communicated by Professor Tyndall, F.R.S. Having procured the instrument soon after, I have since had many opportunities of testing its usefulness. In affections of the heart in particular, it has afforded the most satisfactory results. In fact, no medical practitioner who professes to treat diseases of the chest, ought to be without it. The important character of the paper will I trust be a sufficient excuse for its length.

"Engaged for some years in investigations into the phenomena of audition, I have become cognizant of some facts which I believe have hitherto remained unnoticed, and which are certainly not generally known to physiccists and physiologists.

The first of which I shall treat is the restriction of hearing external sounds of the same character to one ear, when the intensity is moderately, yet decidedly greater in one ear than in the other, the hearing being limited to that ear into which the sound is poured in greater intensity. The sound is heard alternately in one ear and in the other, as it is conveyed in increasing degrees of intensity, and hearing is suspended alternately in one ear and in the other, as the sound is conveyed in lessening degrees of intensity.

Sound, as is well known, if applied to both ears in equal intensity, is heard in both ears; but it will be found, if the intensity in respect to one ear be moderately yet decidedly increased, by bringing the sounding body nearer that ear than the other, or otherwise, as by the employment, in respect to one ear, as a damper or obstructor of sound, or in respect to the other ear, by the employment of some intensifier, or good collector or conductor of sound, the sound is heard in that ear only which is favoured and has the advantage of greater intensity.