internal or external, viz., that a sound of the same character in the presence of both ears, if conveyed by any means to one ear, or to the nerve of that ear, more intensly than to the other, is heard in the more favoured ear only.

It seems necessary, in Mr. Wheatstone's experiments, that the bones of the head should vibrate freely; weak sounds, such as gentle blowing, will not succeed; and if the tuning-fork be placed immediately under the open ear, and passed upon the soft parts, little fitted for vibration, between the mastoid process of the temporal bone and the lower jaw, the sound is heard in this ear, and not in the closed ear.

It may perhaps be well before proceeding further, to acknowledge that I am well aware it has been long known that a very loud sound conveyed into one ear will render the other insensible to sound of a weak or low character. But the phenomenon which I have ventured to bring under the consideration of the Royal Society differs from the well known and readily admitted fact in this important particular, that no very great loudness is required, and that no very great augmentation of sound in one ear over that in the other is necessary in order to restrict the sense of hearing to one ear, and to deprive the less favoured ear of the sense of hearing which it had previously enjoyed. A moderate, yet a decided increase of intensity is all that is required to remove the sense of hearing from the less favoured ear, and to cause the more favoured organ to be alone sensible to the sound.

When sound is proceeding into the two ears, but in consequence of its reaching one ear in greater intensity than the other is heard only in one ear, the sensation of hearing in the favoured ear, though strictly limited to it, is augmented by the sound entering the less favoured ear, although it entirely fails to sause a sensation there, or to produce a consciousness of sound in that organ. The more sound collected by the less favoured ear, as long as the amount is less than that conveyed to the other ear, the more the sensation of sound is augmented in the more favoured ear. The intensity of sensation in the more favoured ear increases in a ratio with the increase of sound in the less favoured ear, until the intensity of sound is the same or nearly the same, in both ears, when the sensation experienced is the ordinary one of hearing with both ears.

This fact admits of satisfactory proof in this way:—A watch is placed on a table equidistant from both ears. The stethophone is applied to the ears; one cup is placed within an inch of the watch, while the other is turned away from it, at the distance of some inches. As the further cup is brought nearer and nearer the watch, the sound, *always* confined to the more favoured ear, is gradually and steadily intensified, until the two cups are, or are about to be, similarly placed, at which moment the sensation ceases to be restricted to one ear, and has acquired its greatest intensity.

This fact proves, that though the sensation of hearing be confined to the ear to which sound is communicated with greater intensity, we profit by the sound which is conveyed into the other ear, though failing to produce a sensation or a consciousness of sound there, by its serving to augment very materially the sensation of sound in the more favoured ear. The less favoured ear thus augments the sensation which we experience, at the same time that it fails to inter-