

Later theories locate the auditory power in the basilar membrane and make the various tones dependent on the different degrees of tension of which that membrane is capable. This theory would annihilate the importance of the arches of Corti, making them either merely supports to the cells upon them or simply conductors between those cells and the basilar membrane. However, in general opinion, the organ of Corti is the great organ of hearing.

Now a note as will be shown later, has three qualities: — pitch dependent on the number of vibrations making the note; intensity depending on the amplitude of the vibrations, and timbre depending on the number of overtones that exist. Suffice it to say that these three qualities are preserved in the transmission of sound through the various parts of the ear, as the ear, being itself a musical instrument, is subject to the same laws as any other, and under influence of the same vibrations will produce the same sound.

Consider also the delicacy of that ear which can, in a practised musician, detect a difference of pitch amounting to only one sixty-fourth of a semitone. How comes it that the ear can detect a difference so small as to be less than the interval between two of Corti's arches? The only explanation seems to be that if a note comes between the pitch of two of the arches it sets them both in sympathetic vibration, and that arch would vibrate the more strongly which was nearer in pitch to the proper tone.

Innumerable indeed are the questions that may arise upon this inexhaustible subject, but they must be left to the specialists in such matters, being too intricate for the unskilled mind. Those who understand the main points in the theory of sound and the adaptability of the ear to its purpose, will know sufficient to be called at least intelligent and, what is better still, will find themselves filled with rational awe at the power and wisdom of the great Creator who made both sound and the ear so admirably adapted to each other, and such a perfect piece of mechanism of the latter that day in and day out, after constant use and abuse, we find it ever ready to continue its duty of recording the sounds of the world about us. It is the only musical instrument that never gets out of tune, and indeed that remark has already been made by the poet who remarks:

“Strange that a harp of thousand strings
Should keep in tune so long.”