

fasten with sealing-wax, on one of them one, and on the other two, disks of card (all equal in size), on the *inner* surfaces, having the plane of the card perpendicular to that of a section of the fork through the axes of both its branches. The cards on that fork which has two, should have their surfaces about a tenth of an inch asunder, and their centres just opposite; and the other fork should be brought into unison with it by loading its undisked branch with additional wax, equal in weight to the disk and wax on the other. Now strike the forks, and a remarkable difference will be perceived in the intensity of their sounds. The fork with one disk will utter a clear and loud sound, while that of the other will be dull and stifled, and hardly audible, unless held close to the ear. The reason of this difference is that the opposite branches of the fork are always in opposite states of motion, and that in consequence the air is agitated by either the two branches vibrating freely, or by both loaded with equal disks, with nearly equal and opposite impulses; whereas in the case of a fork furnished with only one disk, a greater command of the ambient medium is given to the branch carrying it, and a much larger portion of uncounteracted motion is propagated into the air. Here, then, we have a case in which a vibrating system in full activity is rendered, by a peculiarity of structure, incapable of sending forth its undulations with effect into the surrounding medium; while the very same mass of matter, *vibrating with the same intensity*, but more favourably disposed as to the arrangement of its parts, labours under no such disability.