

contents of the head of the honey bee, may be seen the singular and somewhat puzzling connection between these air vessels distended by their peculiar spiral fibres, and the salivary glands of this insect. In this preparation it will be seen that, instead of a large spiral vessel, dividing and sub-dividing into extremely fine tubes, and these tubes ramifying over the part requiring aeration (as in other cases), these tubes appear to be modified and converted into the very gland structures themselves? And in another slide, may be traced the connection of these wonderful air tubes, with the muscles, the ovaries, and the gizzard of a flea. Perhaps I should remark by the way, that the existence of this last mentioned organ, a flea's gizzard, was, some time since, warmly discussed by a number of microscopists. It is well known that insects, possessing a suctorial apparatus, are not usually furnished with a gizzard, of which is essentially a grinding or triturating organ. But the late Professor Quckett (whom it was the writer's great privilege to know) asserted in spite of all opposition, and contrary to analogy, that the flea possessed this organ; and so it turns out! For the clever little Frenchman who made this flea preparation for me, has managed to demonstrate the fact; and to mount the minute dissection (thus made with an amazing amount of patient persevering skill) in a most exquisitely beautiful manner.

But what of these air tubes, about which so much has already been said? On examining the preparations which accompany this paper, you will observe that they consist of two membranous tubes—one inside the other—and that between these delicate membranes, there is coiled a spiral fibre which tapers down smaller and smaller, as the tubes subdivide; and which continues its course down to the most minute vessel that the microscope can reveal. The purpose which this spiral fibre serves, affords a striking and beautiful illustration of that marvellous design and adaption, which is exemplified in the whole of the great Creator's works. As these tubes contain only air, they would be liable to collapse by the constant pressure of surrounding organs, and still more by the violent contortions of the animal when moving about were it not for these spiral fibres, which combine lightness, firmness, elasticity, and every other needful requisite. So admirably do they fulfil their intended purpose, that the human inventor has copied them, to strengthen his elastic india rubber gas pipes and other tubes of similar character.