an exceedingly thin, colorless membrane. The tongue terminates in a minute suction-funnel which connects through a valve with the bag; the under side of the tongue is slit the whole length. The maxillæ, or under jaw, of the bee is in two pieces, which move sideways, and in conjunction with the caraglossal or side branches of the tongue forms a tube, through which the honey (when in sufficient quantity) is pumped into the pharynx by the up and down motion of the hairy tongue within the tube, just as water is pumped by the vacuum causing motion of the sucker. When honey is too scarce to be pumped up the bee places its tongue funnel over it, and by expanding its tongue-bag through the slit causes a vacuum, into which the honey is drawn. When this bag is full it is compressed, and forces the honey through an opening at the back of the tongue into the pharynx. When at rest the tongue is telescoped one-third of its length into the mentum (or hollow chin), and together with the enclosing maxillæ, is folded back under the chin out of danger.

The antennæ of a worker, although as fine as a hair, consists of eight movable and four fixed joints; its outer surface is studded with hairs, which are really nerve sheaths, and is perforated with smelling and hearing holes. On the under side of the first and longest joint are innumerable long, fine feathers, each of which contains a feeling nerve. The number of smelling holes is 2,400, while the hearing holes are too numerous to count, as are also the nerve sheaths. The queen has only 1,600 smelling holes or nostrils, while the drone has 37,800. But how marvellous is the interior of this organ when it contains all the muscles necessary to move all the eight joints in every direction, all the nerves which run, one from each smelling hole, hearing hole and nerve sheath, a most complicated system of aerating tubes and the blood.

The bee has three simple eyes like our own, but fixed in the centre of its forehead; and on each side of its head one compound eye, resembling a large blue bead stuck there. Each compound eye is made up of 6,300 simple eyes, grouped together and partitioned by a thin scale Each seperate eye of the group is perfect in itself, having its own cornea, pupil, lens, virtrous humour, retina and optic nerve. How minute, then, must be the partitions and the nerves when the facets (or corneas) themselves measure only 1-1800 of an inch each across.

The brains of the bee consist of one large ganglion or nerve centre; whether the bee's thinking powers lie here is not known, but that bees have what is at least akin to power of thought, the lecturer clearly proved by some wonderfully interesting and amusing facts he related of their action under his own and other reliable observation in unusual circumstances.

The head contains one pair of salivary and one pair of chyle milk glands. A third pair of salivary glands is located in the thorax.

The fore legs carry each a comb for cleaning the antennæ, an eye brush and a tongue brush while the fore and hind feet are provided with a clothes brush, two claws for climbing rough surfaces and a sticky pad for climbing smooth ones. A spur under the elbow joint of the middle leg is used to dislodge the loads of pollen from their places in the pollen basket of the hind legs. The middle feet are really hands, and compose the bee's tool chest, for they are provided with a mason's trowel, a varnish and glue brush, two pairs plyers, two pairs shears and one pair tongs. The second joint of the hind leg is hollow on the outer surface, and the hollow is fringed with inward curving stiff hairs, so as to form a basket in which the bee carries home the pollen of the flowers. They use the pollen to make bread. The manner of loading this basket is most interesting.

The wax is an animal product secreted by very intricate glands under the lower scales of the abdomen. It is the superfluous fat of bees, and oozes out as sweat, hardening as it meets the outer air, into little quadrilateral scales. These scales are used in comb building.

The sting consists of sting proper, poison bag and poison glands. The sting proper consists of a sheath and two lances. The lances are grooved and work upon a bead on the sheath independently of each other, and each is moved by its own muscle. The ends of the lances project beyond that of the sheath, and are barbed. When the sting enters a foreign substance the lances immediately begin to work alternately in such a manner as to carry the sting proper its whole length into this substance, even after the sting has been left behind by the bee. A healthy sting will work for several minutes after it has been severed from the bee's body. The sting of a dead bee often retains its energy for twenty-four hours. Apiarists are often stung by handling dead bees. While the sting is working the poison bag is constantly contracting, and forces its contents through an opening between the lances into the wound caused by the action of the lances.

The bee's egg is a marvel in itself, although so small that only a practical eye can see it. It has its yolk, its white and its shell, and, besides this, it is enclosed in a beautiful network of air vessels. Three days after it is laid the egg hatches,