tains over ripened honey, and which, he thinks, is collected and thrown off by these glands. These ideas seem very crude, and would hardly be believed at the present time, but they are copied in the present edition of Cowan's "Honey Bee," which seems to indicate that the organ in question has not been further investigated since 1883.

I have constructed a special stage to my microscope which holds a bee's abdomen in a distended condition, enabling me to examine the surface of this organ under a high power. It then has the appearance of being paved with a mosaic of minute semi-transparent vesicles. At the outer margin of the vesicular area is a long hollowed out depression.

From the above notes it seems clear that the organ under consideration is connected very closely with the means that bees have of attracting one another. There is strong evidence in favor of its being a secretory organ. This being the case, it seems but natural to suppose that it produces some kind of scent by which bees are attracted to one another. This theory is strengthed by the fact that we know that bees are greatly influenced by scents some of which we can hardly perceive. They can smell honey and syrup far better than we can. There can be no doubt the antennæ, are the principle organs of smell in insects generally. Lefebvre so far back as 1838 made experiments on bees which seemed to assign the organs of smell to certain pits in the antennæ, and this is the theory now generally held. On the other hand, no certain organs of hearing have been found in bees. Sir John Lubbock, (now Lord Avebury) says in "Ants, Bees and Wasps" (page 290): "The result of my experiments on the hearing of bees has surprised me very much. It is generally considered that to a certain extent the emotions of bees are expressed by the sounds they make, which seems to imply that they possess the power of hearing. I do not by any means intend to deny that this is the case. Nevertheless, I never found them take any notice of any noise which I made even when it was close to them." Lord Avebury goes on to say that he tried his bees with a violin, dog-whistle, tunning-fork extending over three octaves, shouting, &c., all to no purpose. Lord Avebury was, on the contrary, very successful with his experiments testing the sense of sight and smell in bees. Forel, an eminent authority on ants, denies that these insects can hear. My experiments with humble-bees have indicated a similar conclusion in their case. While the evidence regarding the absense of the sense of hearing in bees is entirely negative in character, one must not declare positively that they cannot hear and they are, at any rate, extremely sensative to certain forms of vibration. It is possible that the membrane we have been considering might in some way act as a modulator of sounds produced in another part of the body, or even produce certain sounds itself while exhaling scent as well. Such sounds might be inaudable to the human ear (vide infra). Sound producing organs situated on or between the abdominal segments are by no means unknown among other hymenoptera. In the male of Mutilla rufipes a metallic chirping sound is produced as the abdomen contracts and expands caused by the segments rubbing on finely ribbed surfaces on one another. This insect is closely allied to the ants. Though the ants are not known to produce audible sounds in this way, yet certain of them have