air being expelled from the reservoirs, it impinges upon the edge of the wing exactly as the air from the lungs of the musician strikes upon the edges of the reeds, or upon the lips of the glottis in the case of vocalists, causing such vibrations as produce notes. Add to this, muscular tightening or slackening of the film, and its height or depth is varied. This, I imagine, will produce the voice-tones which may be a perfectly comprehensive language to bees, although unheard by us, in the same sense as a whispered conversation at the other end of the room would be here inaudible. In passing :- A young son of mine has informed me that last season he repeatedly observed his pet humble bees vibrate their wings when not extended so as to join the two side wings together by the bent plate and hooks, and that the sound produced with the wings, so to speak, loose, were quite distinct in tone and character from the usual bee-notes.

I do not suppose this theory will ever be more than a hypothesis until we introduce the receiver of the microphone into the observatory-hivenot a difficult thing for scientists. As for the well-known notes we actually hear, it is no new theory that they are produced as Swammerdam says :-- 'By the motion of the wings, which is increased by the internal air propelled out of their bodies through the air-tubes at the same time ; for some of these pipes open with wide apertures under the wings. Certain cavities, also, fit for receiving and vibrating the air, and formed under and behind the wings, contribute to this. Nor must the shoulder-blades be excluded from their share in this music, since they are placed just above the wings, joined to the chest, and having under their breadth the openings of several air pipes. It is thus the motion of the wings, with the assistance of all these parts, and by force of the propelled air, makes the humming noise peculiar to that insect. Reaumur attributes the sounds of bees ' to the wings beating more or less rapidly against the air, according also, it may be, to the different angles at which it is struck; and he expressly says, that a bee whose wings are eradicated is perfectly mute. Hunter, on the other hand, affirms that, though the wings be cut off, and the legs held fast, they can still emit a shrill, peevish sound, as they can also do when their wings are smeared with honey, and even when they are held under water, which he observed to vibrate at the point of contact with the air-holes at the root of the wings.

Since writing the above, the sixth part of Mr. Cheshire's admirable work on bees has appeared, and he, as ever, goes most exhaustively into the question. He quotes Landois, who noticed

three tones in the flight sound :-(1), the wing beats, (2), vibrations in the abdominal rings, (3), notes from the true vocal apparatus placed in the stigmatic orifices (he stopped these with wax and brought the humming to a close at once). Mr. Cheshire tells us that the wings undoubtedly do the buzzing, but the humming is as clearly the outcome of an apparatus within the spiracles of the bee. He goes on to describe this anatomically, and concludes by attributing the voice of the bee to sounds emitted by plaited and fringed curtains lying behind the edges of the spiracle, these curtains being played upon by air puffed in and out at the will of the bee. Whether by this means, or by the air being forced against the wing edges, by vibration of the wings, or by all of these methods, I hope I have shown you that there is a strong weight of evidence, containing facts which if not already known to us may be easily verified, in support of the assertion that bees, in common with many other insects can hear, by organs not dissimilar to ours, that they can also utter varying voice tones by a method also much resembling that producing the voice-tones of man and the greater part of animated nature which intercommunicates impressions and desires, and that these two faculties, hearing and speaking, are possessed by bees, not without an object, as we can perceive always in the works of nature if we examine them closely, but with the distinct object of being used as we use language, and as every other animal uses lauguage which possesses the apparatus suitable for vocal signalling.

Granting this much may we not, without disagreeing on points of anatomical structure, conclude that the voice of bees is duplex, first vibratory by the wings as exemplifiedby the hummer wood, continuous during flight, and conveying only a general assurance of contentment or alarm; secondly, truly vocal by means of the air-sac (the lungs), the spiracle (the throat), and one or more vibrating lips against which the air strikes in respiration, producing notes some of which even we can hear and understand? The vibratory method I will illustrate by the hummer and the truly vocal by the obœ reed.

FOR THE CANADIAN BEE JOURNAL. PRICES OF B3ES.

HE season is approaching when the demand for bees is experienced. This demand is not of long duration. In our

country it begins about 1st May and ceases on 1st August. During these three months of the year those having them to sell must sell them, and those desiring to purchase will purchase.