

The final conclusions, with reference to the cause of motion, are as follows:—(1) Movements of the tendril and petiole are due to unequal growth, as producing unequal tension of tissues. (2) The unequal growth is chiefly defined in the vibrogen tissue, which may therefore be regarded as the seat of movement. (3) The band of unequal growth does not arise at successive points of the circumference. (4) The vibrogen tissue consists of three longitudinal bands, each of which becomes more active in turn, without regular order. (5) The collenchyma tissue is that which is chiefly concerned in variations of tension under mechanical stimuli. (6) Bending or coiling under the influence of irritation results from release of tension, or (free coiling) from inequality of tension through maturity of tissues. (7) Transmission of impulses is effected through continuity of protoplasm in the active tissues.

DR. C. J. E. MORREN.—On February 28th Dr. Morren died at the age of 53 years. He was Professor of Botany in the University of Liège, Director of the Botanical Institute of the same city, and Secretary of the Belgian Horticultural Society. In all of these positions he rendered important services to Botany and Horticulture.

PROF. EDWARD TUCKERMAN, LL.D.—Dr. Tuckerman died at Amherst, Mass., on March 15th, at the age of 69 years. Although not actively engaged in teaching, he filled the chair of Botany at Amherst College from 1858 to the time of his death. He will be chiefly remembered for his studies of Lichens, having been recognized as one of the leading lichenologists of the day, and the highest authority on this continent.

FEEDING INSECTS WITH "COMMA" BACILLUS.—Dr. R. L. Maddox, in a paper before the Royal Microscopical Society, details the results of further experiments in feeding insects with the comma bacillus. His observations were chiefly made upon the common blow-fly (*Musca vomitoria*), and included a very large number of microscopical determinations, special cultures of the comma bacillus being used for the purpose of feeding. The results of all his investigations lead him to believe that the comma bacillus from cultures can pass through the digestive tubes of some insects in a living state, and through this fact, such insects are likely to become an important means of distributing disease, especially to animals, birds and fishes which feed upon them. This, therefore, is in accord with the quoted views of Dr. Grassi, "That insects, especially flies, may be considered as veritable authors of epidemics and agents in infectious maladies."—*Journal Royal Mic. Soc.*, 2nd S., V. 602 and 941.