

MARVELS OF PLANT LIFE.

More than a century ago Erasmus Darwin wrote "The Loves of the Plants" which provoked Canning's famous satire, "The Loves of the Triangles." Now we discover from some remarkable researches that the distinction long supposed to exist between the animal and the vegetable world is not a fact.

A demonstration effected by the aid of some delicate instruments invented by Sir J. C. Bose has given records of the heart-beat of plants. Moreover, these same instruments diagnosed the health of the plants whether they were in good or failing health, even providing a record of their death agonies.

It is thus a proven and astonishing fact that the life-mechanism of the plant is practically identical with that of the animal. The flower's "nervous system" is shown by the throbbing pulsation which takes the place of the animal heart-beat, and this pulsation gives a violent spasm at the moment of death.

By the use of a delicate optical device of great power the experimentalist can picture the activity of the living cells in the plant, and another apparatus serves to make the plant automatically record its own responses to various signals. The sensitivity of some varieties of the vegetable world is estimated in this way to be ten times greater than that of man.

The invention of Bose's "optical lever" shows the activity of living cells in the propulsion of sap from the roots of the tree to its highest leaves, thus solving a problem which had puzzled botanists for the last two hundred years. The actual position of the "heart" of the plant is found by the electric probe and galvanometer.

The delicacy of the instruments necessary to measure the heart-beat of a plant, which is less than a millionth of an inch, can be imagined. The beat is magnified some millions of times, and the result thrown on a screen or film. By this method one can see how such a drug as chloroform at first excites the plant, stimulating it to intense vigour. Then comes less rapid and spasmodic beats until they come to a total stop. We know that means the death of the plant.

—From "*Wonders of Plant Life*," Sir J. C. Bose.

WAKE UP, NEW ZEALANDERS!

A member of the New Zealand Native Bird Protection Society, now resident in Canada, writes:—"I was pleased when passing my forest home here to see the birds feeding on the trays I left. I pinned a note inside when leaving asking the next tenants to feed the birds. In New Zealand the next tenants would likely say 'Queer!' but here the people understand."