

the first-opened male heads no doubt fertilising the stigma from the next-opened hermaphrodite heads, and so on. In this species the bracts are not cup-shaped, but nearly flat; the stigmas hang out very much farther than in *E. helioscopia*; and the styles are perfectly straight.

The above observations are very imperfect as a series, and I can only offer them as a contribution towards an investigation of the laws which govern the cross-fertilisation or self-fertilisation of winter-flowering plants. On communicating some of them to Mr. Darwin, he suggested that the self-fertilised flowers of *Lamium album*, and other similar plants, may possibly correspond to the well-known imperfect self-fertilised flowers of *Oxalis* and *Viola*; and that the flowers produced in the summer are cross-fertilised; a suggestion which I believe will be found correct.

In conclusion, I may make two observations. The time of flowering of our common plants given in our textbooks is lamentably inexact; for the hazel, March and April for instance! and for the white dead-nettle, May and June! according to Babington. Great care also should be taken to examine the flowers the moment they are brought in-doors; as the heat of the room will often cause the anthers to discharge their pollen in an incredibly short space of time. This is especially the case with the grasses.

ALFRED W. BENNETT

#### PROTOPLASM AT THE ANTIPODES

THE Protoplasm excitement seems to have died away in a great measure in this country; and it is probably no loss to science that the matter has ceased to be a prevailing topic of conversation at dinner tables. We learn, however, from the Melbourne papers, that the arrival of the February number of the *Fortnightly Review* in the Australian colonies gave rise to an epidemic there of controversial science in a very alarming form. The description they give of the intellectual condition of Melbourne in June and July last, in fact, reminds us of that famous time at Constantinople, when a cobbler would not mend a pair of shoes until he had converted his customer from a Homousian to a Homoiousian, or *vice versa*. The *Melbourne Daily Telegraph* is proud to think that a city which a few years back could only be stirred by a "Jumping Frog," is now agitated by proteinaceous theories; and this, too, in spite of the fact that they had previously been warned by the scientific correspondent of the *Melbourne Leader* of Mr. Huxley's gross ignorance and sensational superficiality. It is perfectly well known that at home here Mr. Huxley has been refuted many more times than there are copies of his article; but in Melbourne he was refuted over again afresh. We learn that the Rev. H. Higginson, "in a singularly able discourse at the Unitarian Church, tore the theory to shreds in a way"—reports the *Argus* with felicitous dubiety—"which showed the preacher to be as keen a humorist as he is a subtle logician." So able was the discourse, and so humorous, that it was repeated shortly afterwards as a lecture at the Mechanics' Institute. Here, however, the lecturer stated that it was a mistake to suppose that he had in the sermon either torn the theory to shreds or treated it in a humorous way; and the report of the lecture lends great support to the statement.

It may be perhaps gratifying to Mr. Huxley, to think that he has stirred men's minds in a place which was

almost a *terra incognita* when the unknown young assistant-surgeon of the *Rattlesnake* looked upon it; but the papers tell us that a reprint of the *Fortnightly* article has been the first instance of infringement of copyright in that colony; and when the learned anatomist was speaking at Edinburgh he probably little thought that materialism would take its revenge on him by producing the following exercise in applied Biology:—

#### THE PHYSICAL BASIS OF LIFE.

Huxley's celebrated Essay on this subject is lectured on daily, by

WILLIAM BARTON,

who has made the matter a life study. It is also illustrated daily at his tables, where the "physical basis" can be laid in from 11 to 3, in the best cooked and most varied

HOT LUNCHEON

in the city.

The first feeling which comes to the mind after such things as these is an unbounded belief in the wisdom of those old teachers who kept esoteric and exoteric doctrines wide apart, and who laid bare the workings of their minds to trusted scholars only, and never to the vulgar gaze. We begin fervently to wish that our illustrious biologist had not, by the dress and mode of his lecture, so laid great biological truths before the public as to excite those especially ignorant of the science of life to try and trample them under foot, and then leave them for a vulgar tavern-keeper to hang up for a sign.

Second—better—thoughts, however, remind us that men of science work not for themselves, or for their scientific fellows, but for mankind; and that only mischief can come of it if they whose business it is to ask Nature her secrets are hindered from telling the world all that they think they hear. It is impossible to separate science from other knowledge and from daily life: all new discoveries especially must have ties with every part of our nature. It is not the business of the biologist to enforce on others what he believes to be the consequences of his biological discoveries; but it is certainly not his duty to withhold his facts from the common people because of the results which he thinks will follow.

And in regard to Australia in particular, we have this reflection, that the plough is needful for the seed; heavy land wants well turning up. There are not wanting signs that a national character is beginning to form among the inhabitants of that country; and we trust that scientific zeal will be one of its chief features. We hope that science even in a controversial form will never again give way in Melbourne to the vain delights of the "Jumping Frog;" and that the protoplasm which Mr. William Barton so admirably cooks will reappear in the nerve cells of Australian brains, and give rise to that love of truth, apart from gold or gain, which is the "moral" basis of "national" life. We may add that we hope not without confidence; for a bright example of conscientious truthfulness appeared in the midst of this small biological tempest. Many of our readers may remember the abundant fervour with which Prof. Halford, some years since, attacked Mr. Huxley's "Man's Place in Nature." At the end of Mr. Higginson's lecture the talented Melbourne anatomist courageously told the meeting, that he had seen reason to change his opinions. Every one here will rejoice to receive from the Antipodes a lesson of self-denial and moral daring, not too common amongst ourselves.