

search, and it is not too much to say that Schaudinn's name has been connected with every distinct advance that has been made in protozoan pathology. In his work at the Kaiserlichen Gesundheitsamte on various forms of human disease his experiments were most ingenious and well conceived, while his interpretations were a happy combination of liberality of view and judicious conservatism. While at this post he carried out experiments showing the specific differences between the harmless *Entamæba* (*Amæba*) *coli* and the pernicious *Entamæba histolytica*, the cause of amœbic dysentery. In connection with this institution also, but at the Rovigno Laboratory, he worked out the full life history of *Plasmodium vivax*, the cause of tertian fever, and put the last missing link in the chain of evidence connecting the mosquito with malaria, by watching the penetration of human blood corpuscles by sporozoites taken directly from the mosquito's salivary gland. It was from this laboratory also that he brought out his much-discussed life history of *Trypanosoma noctuæ*, which gave the first light on these important organisms which are so bound up with human affairs in the nagana and surra, etc., of Africa and India, and Trypanosomiasis and sleeping sickness in man. It was while connected with the Berlin institution that he made his last important discovery of *Treponema pallidum*, the cause of syphilis, an organism that has been sought for in vain by biologists and pathologists since the germ theory of disease was established.

It was in the field of general biology, however, that Schaudinn's greatest and most far-reaching work was done. The problems connected with reduction, and maturation in general, and of parthenogenesis, have been illuminated by his researches on the life history of protozoa. He was the first to give a complete account of the life history of protozoan organisms, and his work on *Coccidium schubergi* is a model of completeness of detail and of scientific presentation. With it came the stimulus for renewed and more careful observation on protozoa all over the world. With this conception of the life cycle always in

mind and its importance in protozoan study, always prominent, he studied many different types of protozoa, and in whatever direction he turned the science of protozoology was advanced. The life activities of *Calcituba*, of *Actinophrys*, *Sphærastrum*, *Acanthocystis*, *Paramæba*, were worked out, and the full life histories of *Entamæba*, *Centropyxis*, *Hyalopus*, *Polystomella*, *Trypanosoma noctuæ*, *Spirochaeta ziemannii* and *Plasmodium vivax* were established.

In his writings Schaudinn was simple and direct. Nothing was stated for effect, and there is an absolute lack of the polemical spirit in his work, which bears only the fair interpretation of his own work with never a thought of priority or of personal advertisement. His experimental work was conceived and executed with a rare combination of skill and patience, and in its very simplicity of statement his writing had the merit of carrying conviction, so that what he has done will remain as landmarks in the field of protozoan research.

GARY N. CALKINS.

THE ROYAL BOTANIC SOCIETY OF LONDON.¹

THE great revival in gardening which has been taking place during the last few years has not had such a beneficent effect on the Royal Botanic as on other kindred societies. Instead of increasing its membership by leaps and bounds and thus improving its financial position, it has found expansion impossible and new enterprise checked by lack of funds. The question as to whether any of the conditions in its constitution and methods are at fault has been under discussion for some months. A committee of conference of fellows was appointed and a report (or rather two, as there was a minority one also) has been presented to the council suggesting various possible reforms. These have been under the consideration of the council, who have just issued their reply. It is evident that, although there is willingness to meet the fellows' wishes on several points, none of the sweeping changes advocated will be adopted; and it seems doubtful to those outside the society who are competent to judge whether the few changes will

¹The London Times.

be sufficient to meet the present difficulties. The idea of admitting a certain number of fellows without the payment of entrance fees has not been accepted, on the ground that 350 would have to be elected to bring in the same sum as 100 who paid the entrance fee. So this apparently simple inducement to get new members is to be put aside. Whether they continue to join at all with the five guineas entrance and two guineas annual subscription remains to be seen. It is clear, however, that the same sum will give more privileges in most horticultural societies. It has been suggested that the transactions of the society should be brought out in a more pretentious form, and the council certainly seems wise in rejecting this proposal at present, which is only likely to increase the expenses of the society without adequate compensation. Whether the plan of admitting nurserymen to the gardens and giving them space for growing the plants they offer for sale is the best way of insuring an improvement in the gardens may be open to question, but there is much to be said for the plan; and the plots need not occupy all the available space: anyhow this, too, is rejected. But no alternative alteration is contemplated by the council, who appeal to the opinion of four trustworthy experts, who have reported on the condition of the gardens. From the point of view of good gardeners they have no fault to find; the upkeep of both the open ground and the greenhouses reflects credit on the staff.

But what strikes the outsider is that in this age of progress in horticulture, when people are constantly getting new ideas and studying fresh combinations; there are no opportunities to learn at the botanic gardens. There is nothing to stimulate, nothing to inspire. The gardens are not better than the park outside; so the inducements to become a fellow are few, although the club-room and library are a valuable addition. Even at the shows many people feel there will not be so much that is novel, and the keenest horticulturists do not go, and the nurserymen, who admit that they are given every facility, and that every consideration is shown them, and they have more

room for display, yet take far fewer orders in three days there than they do in one elsewhere. The fact is, the gardens, although charming in many ways, are not up to date, and complacent satisfaction in their present fitness will not mend matters.

It is strange also that lectures should not have been well attended. Those given on botanical subjects at the Chelsea Physic Garden, which is not in a much more central position, had an average attendance of seventy, which shows there is room for work in this direction.

It will be a great loss to science if this important society, once the leading one, forfeits its high position by not pursuing a more forward policy at this critical moment in its history.

THE INTERNATIONAL INSTITUTE OF SOCIOLOGY.

THE Institut International de Sociologie was organized in 1893, with headquarters in Paris, where its congresses have hitherto been held. Its first president was Lord Avebury, the present president of the Sociological Society. From the beginning, its international character has been maintained. Its membership has included Professors Kovalevsky and Novicow for Russia; Brentano, Bücher, Conrad, Schmoller, Schaeffle, Simmel and Wagner for Germany; Gumpłowicz and Menger for Austria; Baldwin, Giddings, Small and Ward for America; and, besides Lord Avebury, Professors Foxwell, Nicholson, Tylor, Sidgwick and Mr. Frederic Harrison for Great Britain.

The present congress came to London through the joint invitation of the Sociological Society and the University of London. All of the sessions were held in the Jehanghir Hall of the University Building, South Kensington.

After the closing meeting, excursions to Oxford and Cambridge took place, which, it was hoped, could be arranged as motor car excursions. A visit to Edinburgh and Glasgow was planned to take place some time during the week following the congress.

The provisional program was as follows: