

sary information, and serious losses were prevented where the measures advocated were carried out. The outstanding feature concerning fruit crops was an outbreak of the pear thrips in British Columbia, and investigations of its life-history and means of control are now being conducted. The warble-fly is also a problem of great importance, especially as the two common species of *Hypoderma* are extending their range in Canada, through the introduction of cattle from infested areas. A definite method of control, by legislation or otherwise, is an urgent need not only in Canada, but also in the British Isles.

Among other topics, insects affecting the household and public health claimed much attention, also the protection of birds and mammals, and the arrangement of the national collections of insects.

A. D. IMMS.

ÉDOUARD SARASIN, (1843-1917).

WHILE the best young shoots are being ruthlessly destroyed the mature grain is being harvested. Édouard Sarasin has passed away. In him Science deplores the loss of a distinguished physicist, and Geneva a great man of an historic race, whose traditions, however, do not cease with him.

The place which Sarasin held in the world of science was in no way due to official position. He was at no time a professor at the university. The admirer of his work who sought him at the University of Geneva did not find him, and was told: "Édouard Sarasin? He is Maire of Grand Saconnex." In answer to a puzzled question as to his academic position they would say: "He is President of the Société Helvétique, and editor of the Archives des Sciences physiques et naturelles."

Sarasin's experimental work, which was of the first order, was carried out at a private laboratory, often in collaboration with friends, whose names are no less illustrious than his own. He was not the head of a school, but a bright star in a galaxy. These men of science grew up under the influence of Auguste de la Rive; and Sarasin's first essay, dealing with electric discharges in rarefied media in presence of a magnet, were prompted by that great master. At the same time, under Soret, he was obtaining results which have become classical; among these we may mention the refractive indices of quartz, Iceland spar and fluor spar, still printed in the tables.

It was however in collaboration with Lucien de La Rive, the son of Auguste, that Sarasin's best known work in physics was achieved. This consisted in the experimental development of the Maxwell-Hertz theory. The discovery of "multiple resonance" is one of the results due to them. It is in virtue of this property that, for instance, a Marconigram may be picked up in transmission by any resonator. The last scientific work with which Sarasin was, only recently, engaged, consisted in delicate experiments on radio-activity carried out in conjunction with Tommasina.

At Geneva, however, the man of science cannot

remain mewed up in a laboratory. Nature tempts him with her beauty and her mystery. Sarasin was a passionate lover of nature and an ardent student of the geophysics of his native land. We can but refer to the instrument invented by him for recording the "seiches"—those strange undulations which from time to time traverse the Lake Lemman, and to his photographic studies on the penetration of light under water.

The reader who desires a fuller information as to the work of Sarasin is referred to the interesting article by C. E. Guye in the *Journal de Genève* of June 26, as well as to the forthcoming account by L. de la Rive in the Archives des Sciences.

GRACE CHISHOLM YOUNG.

NOTES.

SIR GEORGE GREENHILL reminds us, in connection with the correspondence on unusual rainbows in NATURE of August 30 and September 6, that letters upon this subject appeared in NATURE of January 23 and February 6, 1890 (vol. xli., pp. 271 and 316). In the issue of the former date Lord Kelvin sent a letter, with a diagram, showing a rainbow caused by reflection, and this was followed on February 6 by an illustrated description of eight rainbows seen at one time by Dr. Percival Frost. Lord Kelvin, in sending this letter, said:—"The theory of the rainbows produced by the sun itself directly, and by the image of the sun reflected from still water, is given in Prof. Tait's book on 'Light.' The phenomena seems to have been observed by Halley in 1698 (see NATURE, vol. x., pp. 437, 460, and 483 for interesting correspondence on the subject)." Referring to the observation described in NATURE of August 30, Mr. J. H. Grace writes from Cambridge to direct attention to a note in the Transactions of the Royal Irish Academy, bearing date November 14, 1826, and written by the Lord Bishop of Down and Connor, where there is a striking coloured diagram which illustrates the point raised by Mr. Low. The Bishop remarks: "It cannot be doubted that the extraordinary, or centre, bow was occasioned by the image of the sun reflected from the surface of the water. The description and the figure answer exactly to this explanation."

THE Tokyo Press publishes the scheme for the inauguration in that city of a scientific and industrial research laboratory. The principal scope of the institution is to assist in the application of modern methods to the development of Japanese industries. The chief sections of the laboratory will be those devoted to researches in electricity, chemistry, electrochemistry, textiles, and metallurgy. To meet the expenses Parliament has passed a law authorising the Government to make a grant to the laboratory of two million yen (approximately 200,000l.), payable in instalments over ten years at the rate of 200,000 yen per annum. The Imperial Household has also made a lump sum grant of one million yen (100,000l.). At a recent meeting the promoters of the scheme elected a committee the object of which will be the collection of funds independent of the Government grants. A sum of 2,900,000 yen (290,000l.) has already been collected, so that the laboratory will have available funds exceeding five million yen (half a million sterling). These particulars are taken from a paragraph in *L'Economista d'Italia* for August 30.

DURING the last three strenuous years, much has been done to organise chemical industries, and there is every reason to hope that in the difficult period after