

greater successes in the future than have been attained in the past. Mr. R. L. Morant, permanent secretary of the Board of Education, in moving a vote of thanks to Prof. Judd, said the college stood for the essential necessity of practical work as a proper means of the study of science.

THE new College of Hygiene and Physical Training instituted by the Carnegie Dunfermline trustees, which was described in our issue for September 28 (p. 550), was opened formally on October 4 by Lord Linlithgow, Secretary for Scotland and vice-president of the Council of Education in Scotland. The chairman, Dr. John Ross, delivered the opening address. He said the work of the college is to be two-fold. Following the method established for the training of the teachers in elementary schools, there is provided first what may be called a great practising school with 4500 pupils, consisting of all the school children, and next there is the college proper, consisting of young women prepared to adopt the teaching of physical culture as a profession, or to acquire for their own personal benefit a knowledge of themselves and the most rational rules of life. As yet only young women are to be received, but it is anticipated that it will be possible in the near future to receive young men. Lord Linlithgow, during the course of an interesting speech, said there is no doubt that the country is waking up to the necessity of some sort of physical training for young people, and to the necessity of a better understanding of the laws of hygiene. It is well that the public should understand what physical training means. Lord Linlithgow defined it as the careful development of the general health to the advantage of the whole body, and indirectly to the advantage of the mind. The Carnegie trustees are, he continued, doing a great and valuable service to Scotland in taking up this subject. They are doing a work which no school board can do, for it is doubtful whether public opinion has as yet ripened sufficiently to allow the Education Department to apply any considerable portion of the national funds to a purpose of this kind. It will come in time, for the public is taking an increasing interest in all that concerns the feeding, the management, the cleanliness, and physical welfare of the young generation. It is being recognised more and more that the amount of information, or book-learning, which a child acquires at school is a matter of comparatively little importance. What is wanted is the healthy training of the boy or girl both physically and mentally.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, July 14.—“The Phagocytosis of Red Blood-cells.” By Dr. J. O. Wakelin **Barratt**. Communicated by Sir Victor Horsley, F.R.S.

The author has investigated the conditions under which phagocytosis of red blood-cells, by means of leucocytes, is brought about. Metchnikoff, who studied this process, attached great importance to the part played by the leucocytes, but Sawtchenko discovered that the chief factor in the production of this form of phagocytosis is sensibilisation of the red blood-cells, which can be brought about by the serum of animals which have been previously injected with the variety of red blood-cells employed for phagocytosis, and he attributed the action of the serum to the presence of amboceptor (immunisine, fixateur). That this is not so, however, is shown by the circumstance that, in the absence of amboceptor, strongly marked phagocytosis may be brought about by serum, and further experiments showed that the effective constituent is an opsonin. In addition, it was found that erythrocytic opsonins are sometimes present, usually in relatively small quantities, in normal sera, and in suitably chosen conditions of experiment may be used to prepare red blood-cells for ingestion by leucocytes.

PARIS.

Academy of Sciences, October 2.—M. Troost in the chair.—Summary of the observations of the solar eclipse of August 29–30 made at Sfax, Tunis: G. **Bigourdan**. Light clouds were present during the eclipse, but were not

sufficiently numerous to interfere seriously with the observations. Particulars are given of the determination of time, the observations of the contacts, the photography of the inner corona, the monochromatic photography of the corona, the work done with the spectrographs, ocular and photographic photometry, the influence of the passage of the shadow on the magnetic state of the earth, meteorology and actinometry, drawings made with the naked eye, observation of the moving shadows, the darkness during the eclipse, and the visibility of the stars.—On the laws of sliding friction: Paul **Painlevé**. An extension of the results obtained in a previous paper and a reply to some objections.—Observation of the eclipse of the sun of August 30 at the Observatory of Marseilles: M. **Stéphan**. The atmospheric conditions were quite satisfactory. The times of first and second contact are given, and the changes of temperature were automatically registered.—On some differential equations of the second order: Richard **Fuchs**.—On minimum surfaces: S. **Bernstein**.—Experimental verifications of the undulatory form of the photographic function: Adrien **Guébbard**.—On isostrychnine: A. **Bacovesco**. Isostrychnine is obtained by heating strychnine with water in sealed tubes at 160° C. to 180° C. The colour reactions of the isomer resemble those of the original alkaloid, but there are points of difference. The poisonous properties of the isomer are less marked than in strychnine, and, indeed, rather approximate to those of curare. That the two alkaloids are structurally different is shown by the action of sodium ethylate, which converts isostrychnine integrally into the isostrychnic acid of Tafel.—On the mode of propagation of some aquatic plants: Louis **François**.—On the geology of the Sahara: R. **Chudeau**.—On the direction of the permanent magnetisation of a metamorphic clay from Pontfarlin (Cantal): Bernard **Brunhes**.

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