ships, 63*l*., (1) W. A. E. Dobbin, University College, Cardiff, (2) E. Beaton, Portsmouth Grammar School and Caius College, Cambridge. London Hospital Medical College—first prize, entrance science scholarship, 120*l*., W. H. Palmer; second prize, entrance science scholarship, 60*l*., J. E. Scudamore; third prize, entrance science scholarship, 35*l*., J. P. Johnson; anatomy and physiology prize, scholarship open to students of Oxford and Cambridge, scholarship, 60*l*., H. S. Souttar, University of Oxford. King's College, London (Faculty of Medicine)—medical entrance, 50*l*., W. T. Briscoe and W. D. Sturrock (equal); Sambrooke (science), 100*l*., E. Gauntlett; Warneford (arts), 100*l*., O. J. W. Adamson.

PROF. E. A. SCHÄFER, F.R.S., delivered the introductory address to the medical students at the Yorkshire College, Leeds, at the opening of the winter session on October 1. The object of the address was to offer practical suggestions with regard to the manner in which a medical curriculum might be mapped out in existing circumstances. It was appalling to think, said Prof. Schafer, that many people who passed as highly educated had absolutely no knowledge of any of the sciences except, perhaps, mathematics. He went on to say that, as a subject of general education, scientific knowledge was an absolutely essential preliminary to the study of medicine, and that because such knowledge was not imparted in our schools it had become necessary to incorporate into the medical curriculum, and in so far to burden it with, courses of preliminary science.

THE distribution of medals, prizes, and diplomas to the students of the Royal College of Science, South Kensington, took place on October 8, when Prof. J. B. Farmer, F.R.S., delivered an address, in the course of which he said it was still unfortunately true that many people of influence, while freely admitting the claims of science as a factor of ever-growing importance in the world of production and industry, nevertheless, when they said they wanted more technical education in the country, did not really want either science or education at all. What they did desire was merely some ready means of instruction that should adapt the knowledge already in sight to industrial and technical purposes. He believed in securing a more widespread and intelligent interest in the meaning of science and the modes by which knowledge might be really advanced. Chief among these was assuredly research.

IN distributing the prizes to the successful students of the Halifax Municipal Technical School last week, Mr. Bryce, while commending the study of commerce as a matter of science and philosophy, urged the authorities at Halifax to fix their attention principally to applied science. "But," he added, "our experience, and that of Germany and the United States, has shown that applied science, to be valuable, must be in connection with theoretical science, and in this country there must be ampler provision for teaching the higher branches of theoretical science if we are to make progress with those branches of science concerned with the practical arts. There is no reason in the world why England should not have as great a career in commerce and manufactures in the future as in the past. A country which wishes to keep abreast of modern trade must keep abreast of modern science. We have been falling behind in the study of science and its application to our industries in this modern world of ours. Science is king, and the commercial and industrial future is with the nations able most completely to master and apply the forces of nature in the most economical way."

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, October 5.—M. Albert Gaudry in the chair.—The influence of water on the structure of the aërial roots of orchids, by M. Gaston **Bonnier**. Contact with water produces an effect on the aërial roots of many orchids, either by preventing the sclerification or lignification of the tissues of the central cylinder, a result which seems natural when compared with the modifications of the roots of aquatic plants, or by provoking a reaction tissue in the pericycle, capable of protecting the rest of the cylinder against the action of water.—On a class of linear differential equations, by M. Alexander **Chessin**.—The conditions which determine the sign and the magnitude of electrification by contact, by M. Jean **Perrin**. The contact charge between a solid and a liquid can be readily studied by means of electrical osmosis, the charge being always greater when the body is a good ioniser, such as water.—The heats of combustion of organic compounds considered as additive properties; alcohols and phenols, ether-oxides, aldehydes and ketones, by M. P. **Lemoult**. By assigning definite values to certain atomic groupings it is possible to calculate the heats of combustion of organic compounds of the above-mentioned classes with considerable accuracy.—The action of phosphorous acid upon mannite; remarks on mannide, by M. P. **Carré**. The ether

$$P_2(OH)_4.O_2(CH_2)_2.(CH.OH)_4$$

is first formed, a phosphite of mannide being ultimately produced.—Derivatives and products of oxidation of nitropyromucic acid, by M. R. **Marquis**. This acid is totally destroyed by oxidation with permanganates, chromic acid or nitric acid, but with sodium peroxide gives nitrous and fumaric acids.—Researches on the formation of azo-compounds. The reduction of ortho-nitrobenzyl-methyl ether oxide, by M. P. **Freundler**.—On the affinities of the genus Oreosoma, by M. G. A. **Boulanger**.—The action of solutions of salts of the alkalis and alkaline earths on fish, by M. Michel **Siedlecki**.—On the genus Ascodesmis, by M. P. A. **Dangeard**.—Researches on the transpiration of green leaves, either the upper or lower face of the leaf being illuminated, by M. Ed. **Griffon**.—On the development of the embryo of the rush, by M. Marcellin **Laurent**.—On ægyrine granites and riebeckite in Madagascar and their contact phenomena, by M. **Lacroix**.—On the functions of the *Charriages* in the delphino-provençal Alps and of the fan-like structure of the Alps of the Briançonnais, by M. W. **Kilian**.

CONTENTS.