

France, with its most highly centralised organisation, is maintaining her roads at about 54 per cent. of what it costs England and Wales with her very local and loosely centralised organisation. Furthermore, the alarming increase in the cost of maintenance has been far more rapid in the countries with local and poorly organised systems of highway administration.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

SHEFFIELD.—The council has appointed Mr. A. E. Findley to the newly instituted post of lecturer of applied chemistry in the University. Mr. Findley is at present assistant lecturer in chemistry at the Bradford Technical College.

THE Mercers' Company has made a donation of thirty guineas to the South-eastern Agricultural College library for the purchase of books of reference. The Fruiterers' Company has also presented a very fine copy of that scarce work, "The Herefordshire Pomona," and the Carpenters' Company a work on forestry, to the college library.

THE July issue of the *Battersea Polytechnic Magazine* shows how successfully the authorities of the polytechnic encourage an all-round development of their students. The magazine contains two general articles; one, on the house-fly, is based on the published papers of Dr. C. G. Hewitt, and the other deals with the discharge of electricity through high vacua.

AN open competitive examination for not fewer than seven situations as assistant examiner in the Patent Office will be held by the Civil Service Commissioners in September next. The examination will commence on September 26, and forms of application for admission to it are now ready for issue, and may be obtained on request addressed by letter to the Secretary, Civil Service Commission, Burlington Gardens, London, W.

ACCORDING to the *Revue scientifique*, a national office of French universities and schools has been inaugurated under the presidency of M. Paul Deschanel, of the French Academy. Prof. Paul Appell, of the University of Paris, and Prof. Georges Lyon, of the University of Lille, have been elected vice-presidents. Dr. Raoul Blondel has been appointed director. The new department is to be installed at the Sorbonne, and its object will be to make known to foreigners the educational resources of France.

AT the close of the term of the Royal Agricultural College, Cirencester, on July 27, the principal, Prof. J. R. Ainsworth-Davis, announced that the council of the University of Bristol has enacted a temporary ordinance, which will probably be made permanent in the autumn, making the college part of the University for higher teaching in agriculture and forestry. He also announced that Mr. H. J. Elwes, F.R.S., has placed a portion of his afforested land at Colesborne at the disposal of the college for research purposes.

WE are glad to receive a copy of the July number of the *Science Journal* of King's College School, Wimbledon. It is a special photographic number of twenty-four pages with several inset plates and sheets of illustrations, and is evidence that photography at Wimbledon takes a very noteworthy place among the out-of-school subjects that engage the boys' attention. Of the thirteen papers or essays, all except two seem to be by the boys themselves, and they deal with camera construction, exposure, development, printing, optics, enlarging, sports photography, and colour photography. It is gratifying to see that the greater number of the articles refer to the writers' own experiences, and are evidence of intelligent work. There may be room for different opinions as to the usefulness of a table of poisons, with the symptoms when taken and the ordinary antidotes, because it may be thought preferable for a lad to get assistance rather than to attempt to diagnose and treat a case of poisoning himself, but with reasonable care such cases of need will never arise.

THE report (Cd. 5257) has been issued of the departmental committee appointed to consider the statement of claims to additional State assistance, and estimates of the amounts needed for the respective services, which have

been supplied by the Scottish universities at the request of the Government, and to report for what objects and to what extent assistance, if any, should be granted from public funds in the interests of the proper development of the work of the universities. The committee reports that a good claim has been made out for an additional grant to Scottish universities, and recommends 40,000*l.* as a fair contribution to their more pressing needs. This sum it proposes should be allocated as follows:—Edinburgh, 12,500*l.*; Glasgow, 12,500*l.*; Aberdeen, 9000*l.*; St. Andrews, 6000*l.* The grants, it is recommended, should be on condition that their administration should be in the hands of the respective University Courts, which should submit annual reports to the Treasury. Not less than 1500*l.* of the grant to St. Andrews University is to be devoted to the conjoint Medical School at Dundee. It is further recommended that, in addition to the 40,000*l.*, 3000*l.* should be paid annually to University College, Dundee, and that the grant at present received from the University Colleges (Great Britain) Grant should be discontinued.

THE antagonism which exists in England between the mathematician and the "practical man" is so deeply rooted that any attempt to break down existing prejudices will be studied with the keenest interest. In his presidential address to the Mathematical Association last January, Prof. H. H. Turner gave a remarkable account of the efficient development of the Egyptian Survey under the direction of Captain H. G. Lyons, F.R.S., in which he states:—"Now it will be readily imagined that for work of such extent and variety it is not easy to get a suitable staff of assistants. Scientific knowledge is necessary, but so also is a knowledge of Arabic and a physique which will stand the hot climate; so also is a business capacity and a faculty of detecting the truth in its Oriental disguises. It might well be that any one of these qualities was essential, while the rest, though desirable, might have to be dispensed with; or it might be that some rare combination of them must be sought with toil. It will probably be admitted that the final opinion of a man who has gone through the trying experience of getting together a staff suitable for such work, and finds himself ultimately satisfied as to the right course, is worth hearing; and hence I feel that the association will learn with peculiar pleasure that Captain Lyons's final method is to take able mathematicians from Cambridge or Oxford and trust to luck for the other qualities. The one thing he finds needful is that when some strange situation occurs, they should have a firm grasp of the fundamental principles, and not merely a knowledge of the rules deduced, which may fail to meet some unforeseen contingency. And this essential condition Captain Lyons has found to be fulfilled by mathematicians when others have failed to meet it. His faith in them has been justified in cases where a breakdown might have possibly been admitted. Even the most complete knowledge of mathematical or physical principles could scarcely be expected to inspire a man in dealing with an Arab camel-driver who was shamming sick; or with the organisation of the commissariat for a journey in the desert; or with an unexpected attack by wandering tribes which necessitated addressing them with dignity from the hump of a camel with three rifles pointed at one's chest. But it has been proved in the best possible way, viz. by actual experience, that such situations are dealt with capably by young men selected for their mathematical ability, with no special training for the contingencies of life beyond what undergraduates all pick up from life in one of our great universities. This is a lesson which we may well lay to heart."

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, July 25.—M. Émile Picard in the chair.—H. Deslandres and J. Bosler: The phenomena presented by the tail of Halley's comet during the passage of May 19 last. From a discussion of various observations, especially those made by R. T. A. Innes at Johannesburg, it is concluded that the tail of Halley's comet was repulsed by the earth, and the evidence is in favour of this repulsion being due to electrical causes.—P. Villard and