Mention must also be made of the considerable experimental and engineering work involved in the equipment of the London Television Station at Alexandra Palace towards the end of the year under review. The report concludes with a summary of the financial position of the Corporation as at December 31, 1936.

The Need for Motor-car Inspection

REVISED regulations for the construction and use of motor vehicles in Great Britain have just been issued by the Ministry of Transport. They provide, among other matters, for the testing of brakes, steering gear, etc., of a vehicle on the road. In about a dozen of the States forming the U.S.A., it is compulsory for motorists to have their cars inspected to see that they comply with safety regulations. According to a recent note issued by Science Service, of Washington, D.C., it is an even chance whether the motorist will find that his car falls below the requirements for safety on the road or not. The most common fault is bad brakes, but it is not unusual to find that lights are out of focus and wheels out of alignment. In some cases, the owner finds that it would cost him more than his car is worth to make the repairs and so it is relegated to the scrap heap, an action which may possibly have saved the lives of other people as well as his own. Last year in Pennsylvania alone, nearly 15,000 of the vehicles were found to be decrepit, and quietly passed out of circulation. Whenever inspection laws are passed in a State, it has been noticed that there is a great decrease in the number of 'collegiate' models which run on the roads on four wheels with no brakes. It is impossible to say what percentage of highway accidents can be attributed to mechanical defects of the cars, as after a wreck there is little left to test. It is reasonable to conclude that when about half the cars in a State have faulty brakes, they are to blame for some of the tragedies which occur. Because cars are fitted with good tyres and good brakes initially, we are apt to forget that the average car on the road is nearly five years old and is generally slightly shaky. Railway trains and air liners, operated by experts, have to pass a rigid inspection to see whether they are safe. Motor-car drivers are usually amateur mechanics; it is rash to assume that their equipment is safe.

Education in Canada

CANADIAN education, as seen in the course of a four-months winter visit, was the theme of a paper read by Dr. F. H. Spencer, late chief inspector, Education Department, London County Council, before the Royal Society of Arts on November 11 last, and recently made available in print. Although the purpose of the visit was to lecture on English, not to investigate Canadian education, and Dr. Spencer disclaims any title to be listened to as an authority on this subject, his comparisons of school buildings, organization, teacher-training and university extension work in Canada and in England are enlightening, even though admittedly superficial. The most satisfactory of his impressions was of the prevalent enthusiasm for popular education, and the most unsatisfactory was of excessive regimentation alike in the primary and in the secondary schools. He was struck by the importance of the service rendered by the universities through their extension departments, and especially their correspondence courses, to remote but interested and ambitious students in the backwoods. The travels of the university extension tutors in the winter into such remote regions provide them with a stimulating adventure—an experience to which a counterpart has sometimes been found in Great Britain, for remoteness is not always to be measured in miles. In the course of the discussion following the reading of the paper, Prof. Krug of Mt. Allison, New Brunswick, observed that there have been few more worthy contributions to Canadian education and to Empire unity than the visit paid to Canada last year by a group of British school administrators and inspectors; a visit which made, he said, a really deep impression.

Physiology and Hygiene in Education

THE place of physiology and hygiene in general education has yet to be effectively established. Intellectual assent has been generally accorded to Herbert Spencer's dictum—that such a course of physiology as is needful for the comprehension of its general truths, and their bearings on daily conduct, is an all-essential part of a rational education—but those responsible for curricula have not so generally given practical effect to such assent. The subject has lately been investigated by Dr. J. P. Rogers for the United States Office of Education. In his report on "Instruction in Hygiene in Institutions of Higher Education" (Washington, D.C.: Government Printing Office. 10 cents), he observes that only a third of the colleges and universities require attendance at a course in hygiene by their students, and it is rare that any instruction concerning the human body is furnished in the last three years of secondary school work. He quotes some interesting criticisms by university authorities of the methods of instruction in use: one president remarks "my observation has been that this course has been too technical and not sufficiently practical. *I have yet to find an instructor who can put the information in a practical way*". It takes an artist, says Dr. Rogers, to fill such a requirement, and the best teacher of hygiene is the master and not the servant of that body of tradition which passes for 'science' in his day.

Extension of Scientific Buildings in Oxford

A FORECAST of extensions of scientific departments in Oxford is contributed by Dr. A. S. Russell, of Christ Church, to the spring number of *Oxford*, the journal of the Oxford Society. Within three or four years, a new physics laboratory for Prof. F. A. Lindemann will, it is hoped, be put up in the Parks, when the Clarendon Laboratory, now occupied by him, could be adapted to the uses of the Department of Geology now inadequately housed in the Museum. These improvements are expected to be closely

followed by the erection of a great new physical chemistry institute. "The Oxford school of chemistry will then be without doubt the finest in the Empire". The article ends with a plea for the award of college fellowships to more of the best of the young men holding University posts in science, especially in the less popular sciences—engineering, zoology, botany, geology. The same number of *Oxford* has noteworthy articles on "Politics or Poetry?", on university camps for the unemployed (which have amply justified the money and effort expended on them), and on women as housing estate managers on the Octavia Hill system.

Medical Research in South Africa

MUCH important research work is summarized in the annual report of the South African Institute for Medical Research for 1935. The use of a 'mixed vaccine' for the prevention of pneumonia among the Rand native miners has been continued with encouraging results. In the Biochemical Department, a strange finding was that the leaf of a plant belonging to the yam family contained forty times as much iron as spinach. Lucerne has been found to be suitable for human consumption as an anti-scorbutic, and several mines are now including this plant as part of their vegetable ration. The influence of South African snake venoms, previously tested on animal tumours, has now been tried on human cancers. Cobra venom often produced a relief of pain in cases of cancer, but not always; and no permanent beneficial effect resulted. There was no evidence that African snake venoms had any action on the majority of malignant tumours in man. Rodents to the number of 2,026 were examined for presence of plague infection, of which 51 were found to be infected with *B. pestis*.

Standardization of Microscope Fittings

IN order that the microscope objectives of different makers might be interchangeable for use with the microscope stands of other makers, the Royal Microscopical Society of London drew up in 1858 a specification for the screw thread of objective and of nosepiece. This specification was revised in 1896, 1915 and 1924, and in its final form has been generally adopted by microscope makers at home and abroad. In view of the increasing use of apparatus above the eyepiece, a committee of the Society has now drafted specifications of standard sizes for the external diameter of the eyepiece end of the draw tube and limits for the outside diameter of the eyepiece shoulder; these have been adopted by the Council of the Society and are detailed in the December issue of its journal (*J. Roy. Micro. Soc.*, 56, 377–380; 1936).

The Smithsonian Institution

THE report of the secretary of the Smithsonian Institution for the year ended June 30, 1936, refers to the continuation of the study of the relation of weather to changes in the sun's radiation. Two papers by Dr. C. G. Abbot appear to prove that the short interval changes of solar radiation are of major influence on the weather for at least the following two weeks. To test this promising method of weather forecasting, seven additional observing stations are required, but a bill to provide funds for this purpose passed by the Senate was rejected later. The Division of Radiation and Organisms has continued its work on the dependence of carbon dioxide assimilation in wheat upon the wave-length of radiation as well as its experiments on the effect of ultra-violet rays on algæ and of light of different wave-lengths on the growth of tomatoes. An extremely sensitive and quick-acting spectroscopic method has been developed for measuring the concentration of carbon dioxide, as well as a highly sensitive robust thermocouple. The Institution has also published the latest results of the high-altitude rocket experiments of Dr. R. H. Goddard, whose earlier work it supported for twelve years. In the most recent trial flights, the liquid-propelled rocket attained a height of 7,500 ft., its automatic stabilizer keeping the flight vertical. Sales of the Smithsonian Scientific Series continue to increase, and in addition to a summary of the work of the Institution and the financial report, the present report of the secretary includes appendixes giving more detailed accounts of the work of the National Museum, the Bureau of American Ethnology, the International Exchanges, the National Zoological Park, the Astrophysical Observatory, the Division of Radiation and Organisms, the Smithsonian Library, the National Gallery of Art and the Freer Gallery of Art.

National Museum of Wales

THE twenty-ninth annual report, for the year ending September 30, 1936, of the National Museum of Wales, gives evidence of steady progress. By an increase of £500, the Treasury annual grant for the year was raised to £17,375, and a detailed report, furnished to H.M. Treasury by the Council, and pointing to the increased expenditure necessitated by the opening of the east wing, had the effect of inducing an allocation of £18,500 for the current year and a promise of £20,000 per annum as from April 1, 1938. The increased grant has enabled the Council to found a Specimens Purchase Fund, to be applied to the purchase of collections or specimens of outstanding importance as the need arises, and to create a Department of Folk Culture and Industries, which was responsible for a special temporary exhibition of Welsh furniture. At that exhibition nearly a hundred examples of furniture, made or used in Wales, and ranging from Tudor to Georgian times, were gathered together. The list of free public lectures displays refreshing variety, and the installation of a 16 mm. sound film apparatus should add to the popularity of the Reardon Smith Lecture Theatre.

Dairy Research in Scotland

THE seventh annual report of the Hannah Dairy Research Institute, Kirkhill, Ayr, contains an account of the developments, finance, and research work of