doctors with a kindliness, a tolerance and large understanding, the skill of hand, the skill of mind and the resourcefulness of a past generation. Where are the successors of van Swieten, John Hunter and Benjamin Rush or, in more modern terms, of Neusser, Osler and Billings? The Greek world sank as it grew in democratic principle—not in the abstract principle of democracy but in the concrete expression of it which substituted for its earlier rulers, proficient in the arts and sciences, the ever increasing number of non-productive Athenian traders. Is the efficiency of modern medical practice riding to a similar fall? Let us be honest with ourselves. If medicine fails it can not be ascribed to our stars, for our time, as all ages before it, in the hour of sickness and death cries as did Jeremiah: "Is there no balm in Gilead; is there no physician there?"

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ALEXANDER SMITH

FROM Edinburgh, Scotland, his birthplace, comes the news of the death of Professor Alexander Smith, lately head of the chemistry department at Columbia University. While this termination of the long and insidious illness which clouded his latter days was not unexpected, his loss is a heavy one for chemistry.

His circle of influence was perhaps widest as a text-book writer. Someone has remarked that a pre-eminent elementary text-book in any science appears but once in a generation. In his generation, Alexander Smith's elementary text-books have been the pre-eminent ones in this country, and, in their various foreign translations, have become well known abroad. When Smith was president of the American Chemical Society in 1911, an after-dinner speaker referred in his remarks to Smith's clear and sparkling eye, which, as those who knew him will recollect, was a very conspicuous and characteristic feature of his. Now, the same two epithets, clear and sparkling, might very properly be applied to his text-books in part explanation of their unrivaled position in the text-book field.

Smith's teaching work in this country was begun at Wabash College, whence, in 1894, he went to Chicago, at which place his teaching methods were chiefly developed. He was intensely active here also in administrative work both within, and, as dean of the junior college of science, beyond his own department; but had still abundant energy in reserve to continue investigative work. The researches on sulfur and on vapor pressures, for which, in 1912, he was awarded the Keith Prize by the Royal Society of Edinburgh, will recur to the minds of most chemists. In 1911 he migrated to Columbia University as head of the department of chemistry, which he proceeded to reorganize very fundamentally, energizing progress with his overflowing vitality until forced by illness to desist.

Truly, his spark was a brilliant one, but all too short-lived.

ALAN W. C. MENZIES

SCIENTIFIC EVENTS

THE COST OF RESEARCH WORK

THE report of the British Scientific and Industrial Research Department for the year which ended on July 31 last has been published. According to an abstract in the London *Times*, it is divided into two sections, the first, which is signed by Lord Balfour, being the report of the committee of the Privy Council for Scientific and Industrial Research, and the second, signed by the administrative chairman, Sir William S. McCormick, that of the Advisory Council.

The first section is largely concerned with financial detail. The total expenditure of the department during the financial year was £525,584, made up of £273,193 from the Exchequer, £65,358 interest on the capital fund of one million for the formation of research associations, £86,355 from the same fund, and £100,677 from fees for tests and special investigations carried out for outside bodies, from the contributions of the shipbuilding industry for research in the Froude tank, and from repayments by the fighting services for research undertaken directly for them. Deducting the last item and also the grants from the million capital fund, the actual net expenditure of the

department from public funds amounted to £338,552, against £427,432 in the previous year.

For the current year this expenditure is estimated at £342,641—nearly £85,000 less than in 1920-21, though about £40,000 of the reduction is accounted for by the government decision that research work undertaken directly for the fighting services at the National Physical Laboratory shall be a charge on the votes of those departments and not on the research department's vote.

While the council deplore the necessity for this reduction of expenditure, with the consequent slowing down of the research program, they realize that the check is less injurious now than if it had come at a later stage, because a steady policy in the matter of research is more conducive to success than the provision of larger sums of money without the assurance of their continuance. They refer with special satisfaction to the report of the Geddes committee, which stated: "We are of opinion that the activities of this department have been minutely examined with a view to obtaining a reduction of expenditure, and we are unable to recommend any further reduction beyond what has been effected."

The second section of the report also deals with the question of expenditure, and its introduction contains short notes by the Advisory Council on each of the activities of the department, intended to show the necessity for their continuance. It goes on to discuss the present position and future prospects of the research associations connected with the department. Of these, twenty-four have now received licenses from the Board of Trade, and twenty-two are in active operation. In addition, three other industries have the possibility of forming such organizations under immediate consideration, and preliminary negotiations are taking place with several others. Several examples are given of the economies and improvements in practice that have resulted from the work of these associations.

The report proceeds to describe the work that has been done for national purposes, including the work of the coordinating research boards, the research undertaken in the various research institutions belonging to the department, and certain investigations undertaken for the department elsewhere. There is also a brief account of the development of research for other parts of the empire, reference being made to the Empire Cotton Growing Corporation, the Colonial Research Committee, and the West Indian Agricultural College, for the last of which temporary buildings and laboratories are being prepared in Trinidad.

Steady progress is reported in the direction of closer cooperation between the scientific work of the various government departments, represented on the coordination boards, and an increasing tendency is noted on the part of the service departments to enlist the cooperation of outside bodies and to arrange for the open publication of the results of their work, when these are of general scientific and industrial importance.

A general survey follows of the work of various institutions under the direct control of the department, including the National Physical Laboratory, the Geological Survey, the Fuel Research Board, the Deep and Hot Mines Research Committee, the Building Research Committee, the Food Investigation Board, and the Forest Products Research Board.

The last part of the report deals with certain independent institutions and specific researches which have been aided by the department, and with the grants made to individual research workers and students. As regards the latter, 544 applications for grants were considered, against 333 in the preceding year, and 280 awards were made, against 245. The bulk of the applications for the academic year 1922-23 have been received, and already it is clear that they will at least equal in number those received last year. The expenditure proposed under this head for 1922-23 is £50,000, against an estimate of £47,000 for the year ending on the thirtieth of September.

PEKING UNION MEDICAL COLLEGE

THE year 1921, the seventh of the work of the China Medical Board of the Rockefeller Foundation, was marked by the completion of the main buildings of the Peking Union Medical College, the only institution for which the China Medical Board has thus far assumed complete financial responsibility.

It is hoped, according to the report of Dr.