

rainfall are given in this Report: for example, 2.05 inches in fifteen minutes at Riversdale (Charter) on March 7, 1930, and 6.50 inches in one hour at Lundi (Chibi) on Jan. 18, 1930. The latter figure represents very nearly the normal total for the wettest quarter of the year in London. It is natural that every effort should be made to forecast the amount of rain to be expected in each rainy season, and for this purpose it appears that a trial is being made of an equation connecting the general rainfall of Southern Rhodesia with the Nile Flood, pressure at Rio Janeiro, temperature at Mauritius, and minimum temperature at Bulawayo. The necessary values of the independent variables are not available until early in December; they give a combined correlation coefficient of +0.77 only, which is rather low for forecasting purposes. For the season 1928-29 the forecast departure from normal was -1.2 inches, and the actual departure -1.9 inches. This matter is in the experimental stage, and consequently the forecast was not made public.

The Report contains a good deal of statistical matter relating to the period under review, most of which is in tabular form. There are excellent rain-

fall maps, giving the geographical distribution of the year's total and of the normal year's total, both of which illustrate the general tendency for rainfall to decrease with distance from the Indian Ocean. This is a well-recognised feature of most of British South Africa, due to the fact that, apart from local convectional storms in the spring and occasional rains due to tropical hurricanes out on the ocean in late summer or autumn, much of the season's fall is due to dynamical cooling of the south-east trades as they rise over the elevated plateau of South Africa, which winds naturally lose much of their moisture in this way as they penetrate into the interior. Climatic investigation is being extended into the upper atmosphere by means of observations of wind with the aid of pilot balloons liberated at Salisbury. Some of these were followed to a height of ten kilometres. At the higher levels, the predominance of easterly and south-easterly winds appears to be lost, both in summer and winter, at ten kilometres, the directions most favoured in 1929-30 being west and north-west. Since this work was only begun in October 1928, this is the first full year's observations of upper winds.

E. V. N.

### Glasgow Meeting of the Chemical Society

**H**OLDING its annual general meeting at Glasgow on March 17, the Chemical Society paid its first visit to Scotland. The choice was particularly appropriate in view of the association both of the president, Prof. G. G. Henderson, and of the Society's first president, Thomas Graham, with that city; moreover, as Sir Thomas Kelly said at the civic reception, the Corporation has a particular interest in chemistry, for they themselves are chemical manufacturers on a very large scale.

In his presidential address, Prof. G. G. Henderson dealt with a matter of pressing importance to all societies which essay to publish the results of scientific investigation, and one which at the present time occasions acute anxiety to those organisations which are nobly attempting to continue to finance an adequate service of abstract publications out of the subscriptions of their members. The burden has fallen very heavily on the Chemical Society. The chief work for which it exists has grown very considerably during the past year; the number of original communications published in the *Journal* is 24 per cent higher than in 1930, and the number of chemical papers abstracted by the Bureau and published in *British Chemical Abstracts* "A" is also very much greater than in the previous year. The consequent financial burden is too great for the Society, with its present income, to bear, and at no other period in its long history has the Society been faced with such great difficulties in carrying on its work.

It is, and always has been, the function of the Chemical Society to encourage the development of chemical science in all branches and to provide a regular and complete record of all new additions to chemical knowledge; nevertheless, it was the Society of Chemical Industry, inaugurated in 1881, which gave to technological chemistry the stimulus then lacking owing to the restricted resources of the older Society, and afterwards the development of other branches of the science has been fostered by the creation of specialist societies. "Looking back on what has happened since 1841," said Prof. Henderson, "the thought arises that if those of our predecessors who managed the affairs of the Chemical Society during the first forty years of its existence had taken a broader and a longer view, some at least of the various

societies to which I have referred might not have been founded, and we might now have one great chemical society, with a membership of 10,000 or more, with the members organised into divisions dealing with the different branches of chemistry and possessing a large measure of autonomy. . . ."

Possibly the suggestion that an endeavour should be made to bring about the merging into one organisation of all the various societies concerned with chemistry might be considered impracticable, but Prof. Henderson urged that no effort should be spared to promote the closest possible co-operation between them; so far as the Chemical Society and the Society of Chemical Industry are concerned, a very good case can be made out for reunion. Such a union would almost indubitably effect economies, and the proposal *ipso facto* merits consideration. Even if the difficulties which stand in the way of bringing about a complete fusion of interests prove to be too great, it should be as possible as it is desirable to arrange for a working partnership of the most intimate character.

An important step in that direction was taken in 1923, when the Bureau of Chemical Abstracts—a joint committee of the two societies responsible for the production and publication of *British Chemical Abstracts* "A" and "B"—was formed. Upon these two societies alone falls the financial burden of this great work, a task which is performed for the benefit of every chemist in the country. Prof. Henderson pointed out that it is singular and anomalous that there are hundreds, perhaps even thousands, of professional chemists in Great Britain who make no contribution to this burden, who do nothing to help the cause of chemistry in the way that is most urgent, most necessary, and most expensive. He appealed to all chemists to support one or both of the two Societies, even though the *Journals* may be consulted by non-members in the general and departmental libraries of practically all universities and colleges, in the libraries of many chemical works and scientific societies, and in a number of public libraries; and even though they rightly find it desirable to subscribe to professional organisations such as the Institute of Chemistry and the British Association of Chemists.

A large addition to the membership of the Chemical Society would assist in easing the situation, but income derived from annual subscriptions is always subject to fluctuations, and something more permanent is desirable. Prof. Henderson appealed for additions to the Society's capital fund, which supports the publication of the results of original investigations in chemistry, and in particular suggested that the Institute of Chemistry might not find itself precluded by its charter from widening the range of its beneficent influence by giving a substantial annual contribution to the Publications Fund of the Chemical Society. Referring to co-operation with the Institute and the Society of Chemical Industry in another direction, Prof. Henderson advocated the formation of local committees of fellows of the Chemical Society in each city where there is a section of the Institute or of the Society of Chemical Industry, in order that joint meetings might be arranged for the reading and discussion of papers.

Of the various suggestions which have been made for the reduction of expenditure, that which proposed the abolition of the Bureau of Chemical Abstracts and the purchase of copies of *Chemical Abstracts* from the American Chemical Society is not likely to appeal to either of the societies. Another suggestion which deserves consideration, but is attended with risk of loss of income without marked diminution in the cost of publication, involves the payment by fellows of a nominal subscription, additional payment being made for whatever publications they desire to receive. A direction in which a certain reduction of expenditure could be effected was indicated by Prof. Henderson. There is a tendency towards the publication of the results of research work in more numerous instalments than was formerly the custom; each instalment requires introductory discussion, and repetition is almost inevitable. If authors published their results in a more limited number of more comprehensive papers and safeguarded priority by means of short communications, little if any loss would be suffered and valuable space would be saved.

The problems discussed by Prof. Henderson are very real and their solution will be correspondingly difficult; nevertheless, it may be supposed that members of a great scientific community will approach them boldly and skilfully as a profession, and not sectionally or with hesitation; unity is strength, and success proverbially comes to the strong.

During his speech at the anniversary dinner after the meeting, Lord Weir referred to a matter of policy which has frequently been emphasised in the columns of NATURE: the status of science in politics and the nation's neglect to make adequate use of scientifically trained men in high places. The man of science must nowadays be mainly a specialist; accordingly, the politician or the so-called business man becomes the framer and controller of policy. While admitting great respect for both the politician and the business man, Lord Weir doubts whether sufficient use is made of the trained scientific intellect when the major lines of national policy are being decided upon. Experience has taught him, for example, that at no time should the Board of Admiralty, the Air Council, or the Army Council—any one of them—be without a member having scientific or engineering attainments; he referred to no question of status or recognition, but the simple wisdom of having representation of that type of brain. Whether or not this is a matter which can be appropriately pursued by the Chemical Society is for that organisation to determine; there can, however, be no two opinions concerning the place of exact knowledge and organised inquiry in the art and practice of government.

## University and Educational Intelligence

OXFORD.—The School of Geography at Oxford was established, with the assistance of the Royal Geographical Society, in 1899. In 1921 it entered into possession of its present quarters in Mansfield Road, where lectures and practical and tutorial instruction are given and other geographical work is carried on. For some years past a diploma in geography has been granted by the University to qualified candidates, and it has lately been decided to raise geography to the status of a final honour school for the arts degree. A new professorship has been established, and the first holder of the chair will be Major Kenneth Mason, who has a distinguished record for service in France, Persia, India, Mesopotamia, and Central Asia. He will be an *ex officio* fellow of Hertford College. The conditions and regulations for the new honour school are not yet determined. Major Mason will take up his duties on May 1.

ST. ANDREWS.—The Senatus Academicus has agreed to confer the honorary degree of LL.D. upon the following, amongst others, on June 28: Sir James Frazer; Sir Richard Livingstone, vice-chancellor of the Queen's University of Belfast; Mr. James Robb, secretary of the Carnegie Trust for the Universities of Scotland; Prof. L. R. Sutherland, emeritus professor of pathology in the University of St. Andrews.

MR. W. E. SHEWELL-COOPER, horticultural superintendent, Cheshire County Council, has been appointed horticultural superintendent at the Horticultural College, Swanley, and will take up his duties in July.

At the National Union of Teachers' annual conference at Folkestone, the president, Mr. A. E. Henshall, of Stafford, protested energetically against the postponement of school building programmes, the employment of capacity tests for free places in secondary schools, and the 'cuts' in their salaries to which teachers have recently been subjected. The teachers of the country, he stated, continue to believe that they have been harshly and unjustly treated. As regards the services the teachers may be expected to render to the community, he directed attention to the difficulty of preparing pupils for life in a rapidly changing world, and suggested (somewhat optimistically) that the teacher can train them to seek to use their own powers, lead them to exercise initiative and to achieve self-reliance, and cultivate open-mindedness, intellectual curiosity, accuracy of thought, tolerance, and a sense of personal responsibility. The time has arrived, in Mr. Henshall's opinion, for a reconsideration of the relation between school and workshop, for no education can be complete which disregards the need of earning a livelihood. Increased leisure, "the gift of science", must also be prepared for, and in the schools must be cultivated interest in those arts and crafts the practice of which demands only relatively easy technique but provides means of self-expression. The May Committee is blamed for checking progress in this direction.

UNTIL quite recently, science as a subject in a girl's education received scant attention. Towards the end of last century, if in the school curriculum at all, it consisted chiefly of descriptive botany and some geology. The method was therefore essentially didactic. At the beginning of the present century the pendulum began swinging in the other direction and laboratory work was initiated. A preliminary drilling in physical measurements formed the basis of this scientific way of obtaining knowledge by personal observation and experimentation; but this heuristic