

Fields of Progress in Chemistry.

THE American Chemical Society has started a new venture in the form of a quarterly issue of *Chemical Reviews*. The first issue contains four articles: on "Atomic Weights and Isotopes" (40 pp.), by Prof. T. W. Richards; on "The Constitution of Polysaccharides" (31 pp.), by Principal J. C. Irvine; on "The Theory of Membrane Equilibria" (18 pp.), by Prof. F. G. Donnan, and on "Organic Radicals" (51 pp.), by Prof. M. Gomberg. These four articles were prepared in connexion with the dedication of the Sterling Chemical Laboratory, and are now published as part of the first volume of *Chemical Reviews* by permission of Yale University.

Although prepared for another purpose, the articles may perhaps be regarded as a type to which later *ad hoc* contributions will tend to conform, and may therefore be used as the basis for an answer to the obvious question as to whether a new publication of this kind is likely to be of permanent usefulness. In our opinion, the answer is in the affirmative. Twenty years ago, in 1904, the Chemical Society of London began a series of Annual Reports on the Progress of Chemistry in order "to present an epitome of the principal steps in advance which have been accomplished in the preceding year"; and more recently the Society of Chemical Industry has supplemented this work by a series of Annual Reports on the Progress of Applied Chemistry. These annual reports have established themselves as an indispensable supplement and guide to the contents of the Abstracts of the preceding year. Their most obvious limitations are found in two directions. The first is a tendency

to "scrappiness," which must always result from the cutting up of a continuous series of experiments into yearly "progress reports." The second is the risk that the personal interests of the reporter in a particular branch of chemistry may lead to the over-emphasis of progress in certain directions, and the neglect of important work in others.

These limitations have been minimised by changing the reporters after a period of perhaps three years, and by encouraging them to trace in some detail the earlier stages of researches in which important progress has been made during the year; but it is clear that the new series of *Chemical Reviews* will have the great advantages that the articles will deal with a small number only of live topics and that the summaries will be authoritative statements by the worker himself, instead of by a reporter. For the general student, who wishes to secure an introduction to current literature, it may very well prove of even greater value than the Annual Reports; and, judging by the earliest samples, they have the merit of being eminently readable, so that it is a pleasure rather than a duty to study them. On these grounds the new publication may be heartily welcomed, as providing in a systematic form the type of publicity that has hitherto only been given spasmodically in lectures and presidential addresses. The price of the publication is five dollars for each annual volume, or four dollars to members of certain cognate societies; it is also proposed, if there is sufficient demand, to issue reprints of the individual articles, so that a whole class can be supplied with copies.

The International Critical Tables.

AT the meeting of the International Union of Pure and Applied Chemistry held in London in 1919, the American delegates submitted a proposal for the international compilation of critically prepared tables of the physical properties of chemical substances and technological materials. The proposal was approved by the Union, and the American National Research Council at Washington has since undertaken the financial and editorial responsibility for the undertaking. A Board of Trustees has undertaken to raise the sum of 200,000 dollars or such part thereof as may be necessary. The editorial responsibility is invested in a Board of Editors, the editor-in-chief being Dr. E. W. Washburn, formerly professor of physical chemistry at the University of Illinois.

To ensure the international character of the Tables, corresponding editors have been appointed in the principal countries of the world. It may be added that the Tables are in no sense a commercial undertaking and the members of the boards of trustees and editors and the corresponding editors serve in an honorary capacity.

The work of critically examining the data and of compiling the various tables is being carried out by well-known chemists, physicists, engineers, etc., some three hundred in number, who have been chosen for this purpose in the various countries of the world, largely on the basis of recommendations from the corresponding editors and their advisory committees. These authorities are not being expected to assume the responsibility of searching the literature, a task which is being carried out in the main by the editorial staff at Washington, but rather to assemble, to examine critically, and to select the best value for each constant, indicating at the same time the probable uncertainty. Each portion of the Tables will be

published over the name of the co-operating authority who has assumed responsibility for it, and the size of each assignment has been restricted so that the work may be carried out within a reasonable time and without becoming too great a burden for any individual (or co-operating group of individuals) to bear.

The main language employed in the Tables will be English, but the introduction, table of contents, definitions, general explanatory text, and a very complete index will be in English, French, German, and Italian.

The Tables will contain all available information of value concerning the physical properties and numerical characteristics of (a) pure substances, (b) mixtures of definite composition, (c) the more important classes of industrial materials, (d) many natural materials and products, and (e) selected data for certain bodies or systems, such as the earth and its main physical subdivisions, the solar and stellar systems, and certain biological organisms, including man.

The scope of the Tables is so immense, and of such an unprecedentedly comprehensive character, that special attention has had to be given to the arrangement so as to enable the Tables to be used with facility and dispatch. For pure chemical substances the data will be assembled in tables of properties, but a certain amount of latitude and duplication will be permitted in some instances, and tables of materials will be employed where it proves to be more convenient. In some cases no definite value of a constant can be put down, but only upper and lower limits. In other cases a graph may be the best means of indicating the variation of the particular property in question.

The importance of securing uniformity in the case

of fundamental constants, conversion factors, etc., has not been lost sight of, nor the importance of associating, where possible, with the data for a particular specimen or material, a statement of the exact experimental conditions, life history, etc.

The Tables will be issued in a series of volumes comprising a total of about 2500 pages (10 in. × 7 in.), publication extending over about a year and a half. The progress made has been such that the first volume is now in the press and may be expected during the early months of 1925. The published price of the Tables will be from 60 to 75 dollars for the set, but the trustees are reserving the privilege of purchasing from the publishers at the rate of 35 dollars per set whatever number of sets may be required to fill all advance subscriptions received by the National Research Council of America up to a definite fixed date, probably April 1 or May 1, 1925. This price represents only the cost of printing, but the trustees and the National Research Council are anxious that all scientific men and women shall be given the opportunity of taking advantage of the lower rate. Accordingly, arrangements are being made so that (1) members of a recognised scientific, technical or engineering society, or (2) universities, research laboratories, libraries, government departments or the like, will shortly be given preferential facilities for purchasing sets at the lower figure before the expiration of the above-mentioned date. The National Research Council will deal with such applications, but all orders placed in the ordinary way through the trade will be handled by the publishers at the higher figure.

The Advisory Committee for the British Empire (excluding British North America) consists of Dr. G. W. C. Kaye (corresponding editor), Sir Robert Robertson, Dr. W. Rosenhain, Prof. A. W. Porter, Dr. T. E. Stanton, Mr. J. E. Sears (jun.), Mr. A. C. G. Egerton, and Mr. W. F. Higgins as secretary. Dr. Rosenhain is also acting as special editor for metals and alloys. It is requested that any correspondence from the British Isles with reference to the Tables should be addressed to Dr. Kaye, The National Physical Laboratory, Teddington, Middlesex.

University and Educational Intelligence.

BELFAST.—Dr. J. A. Milroy has been appointed J. C. White professor of bio-chemistry in the Queen's University. Dr. Milroy came to Belfast in 1902 as demonstrator in physiology, and on the foundation of the University in 1909 he was appointed lecturer in bio-chemistry. The title of reader in bio-chemistry was conferred on him in 1922. He is the author of numerous articles in the *Journal of Physiology* and other scientific papers.

Dr. V. D. Allison has been appointed J. C. White lecturer in bacteriology in the University. Dr. Allison is a graduate of the University, and since 1920 has continued his studies as research student in the Institute of Pathology as a Beit Memorial Research Fellow, working under Sir Almroth Wright and Prof. A. Fleming.

BIRMINGHAM.—Applications are invited for the professorship of philosophy in succession to Prof. Moberly. Applications (fifteen copies of each), copies of three testimonials, etc., must reach the Secretary of the University by February 2 at latest.

LONDON.—The following doctorates have been conferred:—*D.Sc. (Botany)*: Miss K. B. Blackburn (Bedford College), for a thesis entitled "The Cytological Aspects of the Determination of Sex in the Dioecious

Forms of *Lychnis*"; *D.Sc. (Chemistry)*: Mr. Harold Hunter (East London College and Battersea Polytechnic), for a thesis entitled "The Chemical Significance of Optical Dispersion"; *D.Sc. (Physics)*: Mr. A. H. Davis, for a thesis entitled "Natural and Forced Convection of Heat in Gases and Liquids," and other papers; Mr. J. H. Shaxby, for a thesis entitled "Papers on Molecular Physics," and other papers; Mr. J. E. P. Wagstaff, for a thesis entitled "The Measurement of Short Time Intervals and its Application to (a) the Determination of the Velocity of Detonation of Explosives, (b) the Duration of Impacts of Bars mainly with rounded Ends, in elucidation of the Elastic Theory," and other papers.

MANCHESTER.—Applications are invited for a lectureship in anatomy. The latest date for applications is February 11. They should be sent to the Internal Registrar, from whom particulars may be obtained.

OXFORD.—Applications are invited from persons possessing a thorough knowledge of entomology in its application to forestry and with experience of tropical conditions for the post of entomologist at the Imperial Forestry Institute. Applications, stating age, qualifications, and salary required, and furnishing references and copies of testimonials, with a list, and if possible copies, of published writings, should be submitted not later than April 15, to the Secretary of the Institute.

THE official report of the Indian Universities Conference held at Simla last May (Calcutta, Govt. of India Central Publication Branch, pp. 79. 8d.) gives in full the Viceroy's inaugural address, two addresses by the Minister of Education, Health and Lands, and the 49 resolutions passed by the Conference, and brief summaries of the discussions. The most important outcome of the Conference is the project for an inter-university board. Steps have already been taken to bring this into being, a provisional committee having been appointed immediately after the close of the Conference to make further detailed suggestions for the consideration of the universities. This it has done, and it is proposed to hold the first meeting of the board in Calcutta, if possible in February next. The Conference has, moreover, recommended to the Government of India that a central advisory board for scientific research be constituted in India, comprising the heads of scientific departments of the Government and a representative of science nominated by each of the Indian universities and by the Indian Institute of Science, with power to co-opt representatives of other recognised institutes of science not affiliated to any university. It is intended that this Board should, among other things, co-ordinate scientific publications in India, utilising or combining existing organs and developing them on an all-India basis and recommending to Government cases where financial assistance would be desirable. It would consider whether the publications of the Indian Museum and the Botanical Survey of India, the *Memoirs of the Geological Survey of India*, and the *Agricultural Journal of India*, now issued by Government, should not have on their editorial boards expert representatives of the various universities, and whether the scope of these journals should not be enlarged. It would also advise the Government from time to time generally with regard to the promotion of scientific research in India. Another resolution demands the remission of customs duty on scientific apparatus and chemicals imported for the use of universities and other approved educational institutions.