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Organisation and Registration of Chemists.

IN a recent leading article (NATURE, June 4) attention was directed to a notable achievement in chemical co-operation exemplified by the recent publication of a volume of abstracts covering the whole field of pure and applied chemistry, issued under the direction of the Bureau of Chemical Abstracts. This unifying enterprise is a significant manifestation on the literary side of a wider movement towards the consolidation and standardisation of the chemical profession within the British Empire. Another aspect of chemical co-ordination is revealed by the remarkable growth in membership and in national importance of the Institute of Chemistry, which this year celebrates its jubilee. This record of progress is admirably reviewed in a recent lecture to the Institute by its immediate past president, Mr. A. Chaston Chapman.¹

In the years immediately preceding the birth of the Institute, there was little or no professional cohesion among those who then practised chemistry either as a whole-time profession or as an addition to such other vocations as medicine, pharmacy, or engineering. In the absence of any code of professional ethics, it was inevitable that marked inequalities should exist in regard to the status and qualifications of chemical practitioners. Even the designation of chemist became misapplied systematically until, as the result of general usage, the term was taken to denote a member of another and better-known profession, that of pharmacy.

In 1876 a meeting of prominent chemists resolved “that it is desirable that an organisation of professional chemists be formed,” and this resolution furnished the germ from which the Institute of Chemistry developed. The immediate objectives were the protection of qualified chemists from the unfair competition of unqualified men and a raising of the standard of professional ethics. The latter aim has been steadily pursued, and with noteworthy success, for although in 1893 the censors of the Institute reported that practices of an unprofessional character were unduly prevalent, yet in the last few years the censorship has had to deal only with cases of slight misunderstanding, and instances of serious misconduct have happily become exceedingly rare.

In 1878 the number of chemists who desired to join the Institute, and whose claims had been approved, was 225, and by 1914 the total member-

¹ The Growth of the Profession of Chemistry during the Past Half-century (1877-1927). By A. Chaston Chapman. (London: Institute of Chemistry, 1927.)

ship of fellows and associates was in the neighbourhood of 1400. During the intervening years the Institute had become sufficiently powerful and exclusive to impose examinational tests on applicants for the associateship, even when such candidates possessed high academic distinctions and had gained considerable industrial experience. At first these tests were entirely practical, and the essential qualification of an aspirant for the associateship was proficiency in the laboratory arts. Later, however, written papers in chemistry, and exercises in translation from French and German chemical literature, were set to candidates whose scientific training had not been taken at a recognised college or university. Very occasionally, older chemists of outstanding eminence and experience were admitted to the senior grade of fellow without examination.

During the upheaval of the War years, other avenues into the Institute were opened for those who had made good as chemists either in the fighting services or in chemical factories producing munitions of war, and although the expediency of this step was contested at the time, the later history of the Institute has proved the wisdom of a judicious opening of the doors without examination in cases which, after careful scrutiny, had been recommended by a zealous Nominations and Examinations Committee.

This provision of alternative methods of qualifying for membership came very opportunely at a time when the sudden realisation by the nation of the fundamental importance of applied chemistry as a key industry led to a rapid growth in the number of chemical practitioners, and to a remarkable development in the schools of chemistry, where many more students than heretofore were entering on courses of higher instruction and research. At present, the total membership of the Institute is approximately 5200, so that after a brief half-century of steady growth this professional body may now claim to include a majority of the practising chemists of the British Empire. The progress of the Institute is not, however, to be measured entirely in terms of increased membership, but rather in relation to the greatly enlarged scope of its activities for the nation as well as for the profession. Government departments and other public bodies consult the Institute and accept its help to an extent unknown in the earlier days.

Within the profession the Institute has been a rallying-point for chemical altruism. It holds out a helping hand to all chemists whether members

of the Institute or not, although obviously the assistance is more effective in the former alternative. Students of chemistry can become registered students of the Institute and are thus eligible to receive its publications and to use the library. They are also invited to its scientific meetings and social gatherings. The appointments register, which gives prompt and ready access to lists of suitable vacancies, has done inestimable service in reducing to small proportions the amount of unemployment. Even in the leanest years of industrial depression the unemployed have been less than four per cent. of the total membership, and in the last resort the benevolent fund of the Institute operates in hard cases of undeserved misfortune.

A review of the present position of organised chemists would, however, be incomplete without reference to another professional organisation, the British Association of Chemists, which came into existence in 1917 as the outcome of a feeling among certain of the younger chemists that the Institute, by reason of its charter, was precluded from taking active steps in such matters as trade disputes, individual or collective bargaining with employers, and in other cases where the material advantage of its members was involved. The prime movers in this development were at first uncertain whether to start the Association as a limited liability company or as a trade union, but ultimately the latter course was adopted, thus bringing the Association into harmony with the operation of the Whitley Councils as applied to the chemical profession.

The Association, which is now a registered trade union although not affiliated with the T.U.C., has a membership of about 1000, of whom about 25 per cent. are also members of the Institute of Chemistry. It is of interest to note that the Association, like the Institute, is representative of all branches of the chemical profession. The Association has its own appointments register and a legal aid department. One of its most beneficent works has been the disbursement of £4000 in unemployment pay during the last two years. This practical demonstration of brotherhood and mutual assistance is one of which all British chemists should be proud, whether they are members of the Association or not.

The foregoing brief sketch of the activities of the two professional bodies depicts a widespread movement towards unification in the chemical profession, but the picture would be unfinished and out of true perspective without an outline of

another modern tendency which makes for disunion and separatism.

When systematic training in chemistry first began in Great Britain, students received a comprehensive training in chemistry and the allied sciences, and at the end of such a training went out with the simple label of chemist. The choice of allied sciences naturally varied from one college to another, but this variation did not alter the main intention of the curricula, which was to produce a well-trained student of chemistry. Such were the courses at the old College of Chemistry and at its successor, the Royal College of Science. In the now defunct Finsbury Technical College, chemical students devoted the major part of their first two years of study to engineering subjects, but they were not on that account called chemical engineers. They were primarily chemists who, on reaching the works, found that their elementary acquaintance with engineering was of real service to them.

Nowadays, owing to academic specialisation, students leave university or college under a bewildering array of categories. We now have bio-chemists, chemical engineers, metallurgical chemists, petroleum chemists, pharmaceutical chemists, tinctorial chemists, and many other kinds. It is possible that, in spite of premature specialisation, these graduates may have the essential qualifications of a chemist, but there is also the ever-increasing risk that chemistry may not have entered adequately into the mental make-up of such a student, in which case all his subsidiary studies in other branches of technology will not make him into a chemist, although sometimes they may enable him to acquire a chemist's job. Already this contingency is exercising the minds of many members of the two professional associations, because it is becoming apparent that unless the registration of *bona fide* chemists is speedily accomplished, chemistry as a clearly defined whole-time profession will cease to count in Great Britain.

There are many difficulties in the way, one being the matter of designation already mentioned, and another which arises from the diversity of circumstances in which chemists pursue their avocation. There are academic chemists in universities, colleges, and schools, chemists in the civil service and in the employment of local administrative authorities, chemists engaged either as employers or employees in chemical industry throughout its varied ramifications, and there are private consultants who serve the public directly as analysts, chemical advisers, forensic chemists,

and specialists in many other unclassifiable ways. In regard to these numerous categories, chemistry differs essentially from medicine and the law, and resembles more closely engineering, in which profession each addition to the scope of its practitioners is soon followed by the creation of a new institution of engineers.

The danger to the chemical profession of a similar fissiparous tendency renders registration the vital problem of the immediate future. The subject is being warmly discussed, and already acute differences of opinion on this burning topic are apparent even within the profession. Those in favour of registration for chemists will, however, derive encouragement and hope from the reflection that a similar battle of the giants was waged fifty years ago between the advocates of a new 'organisation of professional chemists' and the champions of the long-established Chemical Society.

Registration will not solve all the troubles of chemists, but it will benefit both them and the community by assisting to maintain to the fullest extent the high professional standard now reached after fifty years of combined effort.

Meteorology: Ancient and Modern.

Manual of Meteorology. Vol. 1: *Meteorology in History.* By Sir Napier Shaw, with the assistance of Elaine Austin. Pp. xx + 339 + 18 plates. (Cambridge: At the University Press, 1926.) 30s. net.

THIS is a most interesting book, and the name of the author, so well known to all students of meteorology, is a sufficient guarantee of its accuracy and pleasant style. The aim of the book is defined by the following quotation from the preface:

"The object of the book is to present the study of meteorology, not only as making use of nearly all the sciences and most of the arts, but also as a world study of a special and individual character, going back inevitably to the very dawn of history and beyond that to the mazes of geologic times."

Much information is given upon sundry subjects that are not strictly meteorological, but only incidental thereto, as, for example, the Kalendar and the causes of Equation of Time. The early chapters are devoted to the connexion of meteorology with European culture in primitive times. The part of the world best known to the ancients was confined to the shores and islands of the Mediterranean, and data are given concerning the