

PRESIDENTIAL ADDRESS.

Delivered at the ANNUAL GENERAL MEETING, March 27th, 1930.

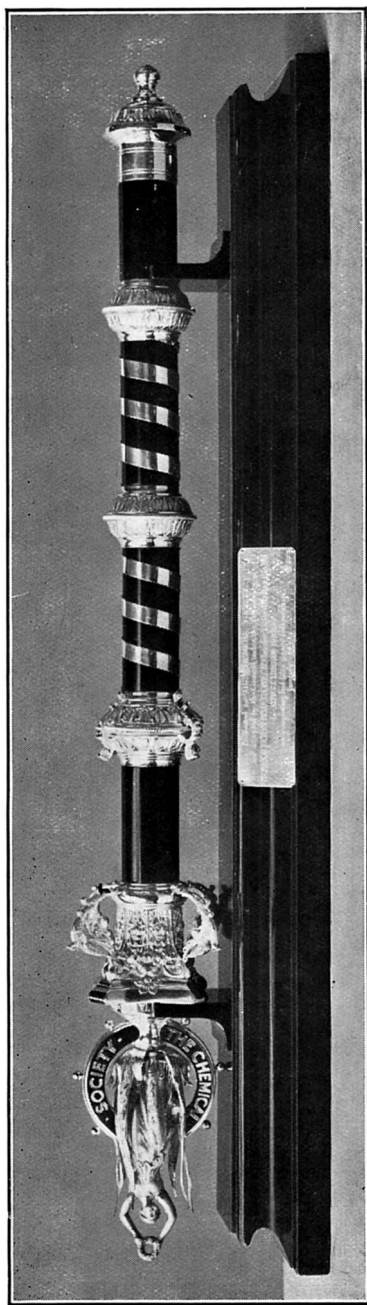
By JOCELYN FIELD THORPE, C.B.E., D.Sc., F.R.S.

Internal Co-operation.

I FIND, on looking through a number of Presidential addresses given before the Society in the past, that usually it has been the custom to devote the address given at the end of the second and final year of office to matters relating to the progress of the Society during the previous two years, leaving the earlier or first address to deal either with some subject of scientific interest with which the President was personally familiar or with the discussion of some wide problem which, at the moment, was of general interest to the Fellows. The Fellows have elected me to another term of office, and I am grateful to them for doing so, because it shows that they have a certain confidence in my desire to further the interests of the Society during the difficult period that is before us. Nevertheless, I am fully determined to take advantage of the permission accorded me to submit my resignation to the Council at the end of the first year of the new period, so that the present occasion constitutes not only the second address of the first term but also the first address of the new term, and next year I shall be in a position to survey the progress made by the Society during my three completed years of office. It is my intention, therefore, to use this occasion to express views and opinions on certain aspects of our Science and to elaborate certain matters which formed the subject of my address at Leeds last year.

The Need for Uniformity of Effort.

In my address to the Society last March I dealt with Co-operation in Science and Industry. It is my intention to-day to deal with the more intimate matter of internal co-operation, affecting as it does the immediate future of the Society. In the previous address it was stated that "the war, although one of the greatest economic disasters the world has yet experienced, gave, without question, a stimulus to discovery and production which no other event could have occasioned." The war did more than this, for it showed the results and achievements which could be accomplished by united efforts towards a common end. The world needed such a lesson, and the amazing development in Science and Industry that has taken place since that great upheaval must be ascribed to the fact that the nations are now applying the lessons learnt in war to the more settled but not less arduous conditions of peace. Indeed, the spirit



Reproduction of Mace presented by Mr. Ayerst Henham Hooker, F.I.C., on January 16th, 1930.

of co-operation or rationalisation is now directing human progress in numerous directions, and not only is leading to internal co-operation within specific branches of activity, but is causing many groups dealing with related subjects to join together in their own and in the national interests. For it is certain that the next twenty years will witness a struggle for supremacy in scientific effort and in the industrial application of science throughout the world which will be even more intense than was the struggle between the contending nations during the war, and that only those nations will succeed in this struggle who have equipped themselves with knowledge and with the ability and foresight to apply that knowledge by united effort towards the achievement of a common purpose.

The Need for a Scheme.

In the previous address it was pointed out that it is chiefly to the chemical and allied industries—mining and metallurgy—that the country turns for the utilisation of its potential productive capacity, because it is their function, aided by the engineer, to make available its mineral, vegetable, animal, and atmospheric wealth. It must be recognised, therefore, that the separation into isolated units of the organisations dealing with the scientific and technical development of the three basic industries mentioned—namely those of Mining, Metallurgy, and Chemistry—is not in accordance with the existing state of scientific knowledge, and that the Nation and Empire cannot utilise to the full the forces inherent in them unless some scheme can be devised by which close co-operation between these groups can be effected. Such a scheme would have to be framed so as to enable the constituent organisations to retain their autonomy, but it should be drawn up in such a manner as to ensure that full opportunity would be afforded for general intercourse and discussion.

At the present time the organisations dealing with the subjects mentioned above are housed—some very inadequately—in various parts of the metropolis, and there are few facilities for the interchange of thought and ideas. There is no general meeting-room, and although most of the Societies and Institutions involved have libraries sufficient for the immediate daily needs of such of their members as are resident in London, such libraries are scattered and are not readily available for anyone who wishes to obtain information, even on specific subjects, and especially on those related to border-line enquiries. Data connected with matters not immediately within the province of any one particular subject but belonging to two or more of them are at present difficult to find. A general Library and Information Bureau is therefore one of the chief requirements of the Scheme: others are a Central Meeting-Room,

secretarial offices closely in touch with one another, and such provision for social amenities as may be necessary to permit of intercourse between the members of the various branches during their leisure moments and to provide a centre for visitors from overseas.

In the chemical world the need for such a scheme has been recognised for ten years past, and efforts have been made from time to time to give effect to it. But, for one reason or another, each scheme has failed to reach fruition, mainly because it involved the raising of capital by means of a loan or some other form of financial commitment which it was felt unwise to ask the various Societies and Institutions to bear.

The Societies dealing with Chemistry, as indeed those dealing with other branches of science and industry, are not wealthy bodies. Most of them possess a small accumulated capital, but the main source of income is the subscriptions derived from their members. The chief item of expenditure is the cost of their publications, the administrative expenses being comparatively small. It is only by the exercise of rigorous economy that it is possible to provide for a small credit balance at the end of each year, and it would therefore be unwise to saddle the Societies with a debt which would necessitate the payment of interest and the creation of a sinking fund. Any scheme therefore which could be regarded favourably as a means of linking up the Chemical Societies under one roof would involve the collection of a sufficient fund by public subscription, and, hitherto, the sum regarded as necessary for this purpose has been too large to be within the sphere of practical accomplishment. The need, however, is urgent, because other nations, notably the French, are actively engaged in co-ordinating their chemical activities, and the Americans already have their "Chemists' Club" in New York. Unless, therefore, something is done, and that quickly, we shall be handicapped in the struggle with which we are faced.

Former Presidents have emphasised the need for such a scheme on the part of our own Society, and even twenty years ago it was regarded as inevitable. The reason for this is that our apartments in Burlington House, which were given us rent free by the Government fifty years ago, have long since ceased to provide us with adequate accommodation. The meeting-room is too small, and is incapable of being suitably ventilated. The seating, which has been arranged so as to give the maximum seating capacity, is unsuitable. Everyone who has occupied this Chair and who has witnessed the contortions necessary to enable the occupants of the cross benches on the west side to see the screen will have sympathised with those who have had to seat themselves there. On occasions,

such as those of our special lectures, we cannot use this meeting-room owing to lack of space, and have to seek accommodation elsewhere. The Library is now so overcrowded that recourse has to be had to shelving books in double rows—a most undesirable procedure. Moreover, all available space throughout the building—including the cellars—has to be used for the storage of books, involving in the case of cellar storage possible loss by flooding, which cannot adequately be covered by insurance. The other Chemical Societies have no accommodation other than office facilities and for the most part make use of our meeting-room. There must, therefore, be general agreement, apart from reasons of national policy, that the need for new quarters is imperative. Indeed, the change in the case of the Library cannot be longer delayed, as the normal increase represents some 900 volumes yearly.

A scheme is now about to be launched by which, for a sum approximately half that required for new premises under the older projects, the Society may be housed in a “Chemistry House,” together with the allied organisations, the Society of Chemical Industry, the Institution of Chemical Engineers, and the Institution of the Rubber Industry. This scheme is of such vital interest to every member of these Societies that I make no apology for outlining it to you and discussing its most important practical aspects.

The Proposed Scheme.

Two years ago a scheme was started having for its object the housing together of the chief Societies and Institutions connected with the scientific and technical development of the mining and metallurgical industries, namely:—

The Empire Council of Mining and Metallurgical Institutions ;
The Institution of Mining and Metallurgy ;
The Institution of Mining Engineers ;
The Iron and Steel Institute ;
The Institution of Petroleum Technologists ;
The Institute of Metals ; and
The Institute of Fuel,

the idea being to house these bodies under one roof in much the same manner as had already been accomplished by the Civil and by the Mechanical Engineers. In June of last year it was considered that the scheme could not be complete and effective without the inclusion of the Chemists, and the Councils of the Chemical Society, the Society of Chemical Industry, the Institution of Chemical Engineers, and of the Institution of the Rubber Industry were approached to collaborate. Each Council agreed to join the scheme on the understanding—

- (1) That the money asked for by public subscription was forthcoming;
- (2) That adequate accommodation was provided.

It was agreed to appoint three members from each Council to serve as a Committee, the function of which was to prepare plans and formulate a scheme for the provision of a "Chemistry House."

The original plan as contemplated by the Societies representing Mining and Metallurgy provided for the occupation of three-fifths of a site situated in Victoria Street, Westminster. The site is the property of the Ecclesiastical Commissioners, who are prepared in principle to grant a long lease at a ground rent which it is within the capacity of the constituent Societies to pay. As soon as the Chemical group signified their intention of participating in the scheme it was agreed that the whole site should be taken up, the two-fifths remaining over from the original scheme being assigned for the purposes of the Chemical group, and becoming therefore the "Chemistry House" of our requirements. The approximate cost of acquiring the existing lease of the site, which has twenty-two years to run, and of erecting a suitable building thereon has been estimated, after careful enquiry, at £325,000: This sum, however, does not provide for furnishing the new building, so it has been agreed to issue an appeal for £350,000. In other words, two-fifths of this sum, or £140,000, will have to be provided by the Chemical group as its share towards the complete cost. It has been arranged that the ground rent shall be paid by each Society contributing yearly an amount equal to but not more than it pays as rent for its present premises, and as this amount will certainly be more than that required to pay the rent, the excess will be utilised to defray the cost of upkeep and the expenses of services common to all Societies housed within the building.

Area Available.

The total "carpet" area available in the new building will be approximately 8,500 square feet for each floor. One complete floor will be occupied by the general Library and the whole of the top floor will be utilised as a restaurant and club. There will be a large Meeting Hall to hold 500 people in the main portion of the building, probably on the ground floor opposite the main entrance. This will leave five floors available for the Societies entering into the scheme, and in the case of "Chemistry House" these floors will have two-fifths of 8,500 square feet, or 3,400 square feet each. There will be a smaller meeting-room—to hold 200—in the Chemistry wing for the use of the Chemical group, although the group will have the use of the larger meeting-room when occasion requires. It is evident,

therefore, that the space available is more than adequate for the needs of the Societies entering into the scheme and provides ample room for expansion. In order, however, that the building should be occupied from the start, it has been arranged to let such space as may be available to "Tenant" Societies who would hold leases for an agreed period and pay an agreed rent. Thus, in the Chemical wing, the Chemical Society and the Society of Chemical Industry would each occupy one floor of 3,400 square feet. The Institution of Chemical Engineers requires only 1,200 square feet, so on the floor occupied by this Institution there would be 2,200 square feet available for the Entrance Hall, Ante-Room, and Meeting-Room. The Institution of the Rubber Industry has intimated that it requires only 1,000 square feet of space, so the remainder of the space on its floor, together with one complete floor, or 5,800 square feet in all, will be available for "Tenant" Societies of the Chemical group. These "Tenant" Societies will be in every case entities directly connected with the industries represented by the constituent bodies. They may include the Association of British Chemical Manufacturers, the National Federation of Iron and Steel Manufacturers, and the Mining Association of Great Britain, and other groups of the same category.

The Library.

As already mentioned, one complete floor throughout the whole building will contain the General Library. This Library will include the Libraries already in the possession of the constituent Societies, and the 33,000 volumes now in our possession will be handed over to form the nucleus of the new Library. In consideration of this it has been agreed that our Society shall continue, as in our present quarters, to be housed rent free. The Library will be sectionalised, and each section will remain under the control of the sectional Librarian. In effect, therefore, our Library, Librarian, Library staff, and Library Committee will continue to function in the new building in the same way as they do now. Moreover, there is no reason to anticipate that there would be any falling off in the outside contributions to the upkeep of our Library. The constituent Societies would continue as a matter of course to pay their share, and outside bodies would be even more anxious to contribute than they now are, owing to the increased facilities provided.

The Central Library is, indeed, one of the chief features of the scheme. It will contain at the beginning some 70,000 volumes exclusive of pamphlets, and will probably be augmented by some 2,000 volumes yearly. The inevitable overlapping between scientific and technical Libraries in respect of books and periodicals dealing with borderland subjects will disappear, or, alternatively, will

provide duplicate copies which can be utilised for the purpose of lending. There will be an efficient Bureau of Information by whose aid the enquirer will be directed to the source from which the information he requires can be obtained. In fact such a Library will be unique in its completeness and accessibility and will be a point of attraction not only for business men and students at home, but also for those visitors from overseas who desire to keep themselves abreast of modern developments in the subjects dealt with. No one can foresee what effect such a source of information, and indeed of power, housed centrally and easily accessible, may have on the future development of Science and Industry.

The restaurant on the top floor will be the means by which meetings under social conditions can be arranged. It is intended that there shall be several small dining-rooms in which the existing dining clubs of the various Societies can meet, leaving the larger restaurant and dining-room for general purposes. The Chemical Industry Club and the Oil Industry Club have now under consideration the question of joining as "Tenants." Should they decide to do so, special rooms would be provided for them on the top floor. The Clubs would, however, retain complete autonomy and would be "private" in the sense that only those persons whom they decided to elect as members could use their premises.

General.

It seems, therefore, that at last we are in a fair way to realise the "Chemistry House" of our needs at a cost which is about half that which would be necessary if Chemists were forced to act alone. This achievement has been possible only because the present spirit of collaboration and the desire towards uniformity of effort have caused the various Societies and Institutions which are parties to the scheme to come together to form a solid band. Ten years ago it would probably have been impossible to do this, and if the present effort fails it may be another fifty years before conditions are again favourable.

The economic advantages of the scheme will be numerous. Many details of office organisation can be pooled, service can be shared along general lines. Internal printing, such as the printing of notices, circulars, and so forth—an expensive item under present conditions—can be done in a small printing press on the premises, and other economies can be effected in several directions. Let us therefore exert all our energies to take advantage of the moment, and do everything in our power to further a project which cannot but be fraught with good for all of us and for the Nation and Empire as a whole; each of us doing what he can to further the cause by

contributing what he is able to contribute, but more especially by convincing those who are in a position to help substantially that the scheme is vital to the future of organised Science and Industry in this country.

Financial.

The problem of raising the necessary money causes some anxiety in view of the present great depression of industry and the incidence of high taxation. In any case, the general appeal cannot be launched until after the Budget. We must look to the industries concerned to provide the greater proportion of what we require, and we hope that they will regard it as being to their advantage to do so, and will also look on it as a kind of thank-offering for past services and for the manner in which the Scientific and Industrial Institutions have provided them with information in the past. It is not too much to say that no Chemical Industry would exist to-day if there had not been the free interchange of thought and information which the Societies have been formed to promote and foster. Not that I have found any marked desire on the part of those engaged in industry to repudiate this debt; on the contrary, except in one or two instances, I have found, as Chairman of the Appeal Committee, not only a desire, but even eagerness to do all that was possible. It is rather the air of uncertainty that pervades all things industrial at the moment that prevents many definite promises being given. Nevertheless, when the general appeal is issued it will contain a list of definite promises amounting to £130,000, including some munificent personal donations, such as £10,000 from Mr. Robert Mond, £1,000 from Mr. Emile Mond, £1,000 from Sir Robert Hadfield, £250 from Sir Charles Parsons, and £105 from Mr. Horatio Ballantyne. A petition was sent to the Chancellor of the Exchequer asking for a Treasury contribution. Such a petition involved no new principle, since, by the housing of a number of Societies in Burlington House, the Government of that day admitted its obligation to Science. Seeing that one of the petitioning Societies, our own, would vacate the premises then allotted to them, it seemed a simple extension of the principle involved to ask for some monetary consideration. A deputation waited on the Financial Secretary, being introduced by the President of the Royal Society, and several speakers laid the case before him. The answer, however, was "non-possumus," although sympathy was expressed with the object in view. It is possible that another appeal made in more favourable circumstances may meet with a different answer, but it seems that we must rely for some time to come on ourselves, and on those of our friends who sympathise with our desire to give effect to the scheme.

Domestic Co-operation.

In my previous address I discussed at some length the advantages which were likely to accrue through the formation of larger combines in industry. I did not do much more than mention at the time the benefits which might be expected to attend a similar process in Chemical Science, because I felt that the time was not then suitable to discuss so difficult a problem. Nevertheless, I did call attention to the advantages enjoyed by the American nation in having but one Chemical Society which could speak for the whole of Chemistry and regulate its publications and conferences. Since then the situation has changed considerably owing to the elaboration of the scheme described above for housing the Chemical Societies under one roof, and I feel that I shall not be guilty of an indiscretion if I examine for a moment the manner in which it might be possible to give effect to that outward and visible sign of union which is now contemplated. It is not my intention to suggest that any such system as that found in the United States is now applicable in this country, because there is no doubt that the principle of combined effort, although admirable and effective in certain directions, contains features which are not altogether desirable. Partial de-centralisation is often more effective than complete centralisation. For example, it would be undesirable and, indeed, impracticable to have the same President, Officers, and Council of the Chemical Society and the Society of Chemical Industry. It would be a practical impossibility to find the men who could give the time adequately to fill these offices. I am speaking on my own behalf, and I am sure also on behalf of my friend the President of the Society of Chemical Industry, when I say that most of our leisure moments are occupied by the business of the Society we serve and that we should not contemplate with equanimity any suggestion that either of us should take over the work of the other in addition to his own. Any such step would tend to throw the control of the combined Societies into the hands of salaried officials, and many of us feel that so long as we can get competent men able and willing to give the time to act in honorary capacities it is desirable to do so.

When the Society of Chemical Industry was formed as a separate entity in 1881, it took over certain definite functions which it has since performed in accordance with the terms of its constitution. The terms Scientific and Technical possessed in those days very definite meanings, and they still possess, or have had attached to them by custom, meanings which enable a decision to be reached, on broad lines, as to the matters falling within either sphere. It is possible to say, in clear cases, whether any communication is scientific in the sense that it deals with the elaboration of some

subject on lines which, for the moment, may be regarded as based on purely scientific hypothesis or theory or whether it is technical in that it is concerned with the description of some chemical operation of acknowledged mechanism carried out on the large scale. It is rather in the matter of the discussion of such questions that co-operation can, in the first instance, be effected. Formerly there was a fairly distinct line of demarcation between the Scientific Chemist and the Technical Chemist, but to-day it is doubtful whether any Scientific Chemist exists who is not interested on the technical side, and the Technical Chemist who is not interested on the scientific side is becoming increasingly rare. Indeed, the whole trend of modern development is to diminish the difference between these two types, and in the not distant future this difference will entirely disappear.

The First Step to Reunion.

The first step towards co-operation between the two branches of our science must be one that will lead to conditions which will enable papers to be read and discussion to be held on both technical and scientific subjects by all those who have the interests of both sections at heart. Such joint meetings must be so arranged that persons interested in both aspects may be present and speak. Here in London such facilities already exist, but they are not yet sufficiently wide in character. I would suggest, therefore, as a first step, that meetings of the four constituent bodies forming the Chemical wing of the new building, namely the Chemical Society, the Society of Chemical Industry, the Institution of Chemical Engineers, and the Institution of the Rubber Industry, should be open to all members of those Societies and Institutions. Such a proposal applies also to those "Tenant" Societies who intend to use the Chemistry wing.

In the provinces, where there are not so many meetings, it would be necessary to arrange composite programmes, so that not only would members of all the constituent Societies be able to attend and take part in the discussions, but also the local Committees controlling such meetings should themselves be composite bodies. The Chairman or President could be chosen from one or other section as circumstances permitted, as could also the Secretaries, although for the immediate future a system of joint Secretaries might, with advantage, be inaugurated.

In effect, therefore, the suggestion is that membership of any one "constituent" or "Tenant" Society under the new scheme should confer on the member the right to read papers and to attend meetings of each Society, whether held in London or as sectional

meetings in the provinces, and that the programmes provided at the sectional meetings should embrace subjects on both the scientific and the technical side. This suggestion must be taken in conjunction with further suggestions which will be made later and in which a scheme is outlined for determining the conditions of membership of the Societies.

Publications.

It may be assumed that one of the chief reasons why a person belongs to one or more of the Chemical Societies is to obtain their publications. If this is so, it may well be that the cause of the annual drop in membership which some Societies are now experiencing may be due to the increased facilities afforded by works' libraries in supplying the requirements of their staffs. Indeed it has been said that some firms have notified their employees that the need for joining Societies no longer exists, because their own libraries contain all the required literature. The large General Library, which is the chief feature of the new housing scheme, should undoubtedly serve as an attraction and inducement for new members to join at least one of the constituent Societies, but unless there exists in the future as there has existed in the past a general desire among the younger men to join the Societies as a matter of principle, it is to be anticipated that a general decline in membership will occur.

The publications of the two chief Chemical Societies are :

- (1) The Journal of the Chemical Society, containing the Transactions of the Society ;
- (2) The Proceedings of the Chemical Society, containing mainly matters concerning the business of the Society ;
- (3) The Journal of the Society of Chemical Industry ;
- (4) Chemical Abstracts A (pure) and B (applied) ;
- (5) " Chemistry and Industry."

" Chemistry and Industry " contains under one cover the Transactions of the Society of Chemical Industry and the B Abstracts. There are other incidental publications such as the Annual Reports, but as the cost of these is, at present, defrayed by sales, they need not be considered for the moment.

The publications of the American Chemical Society are similar in character, being the Journal, Chemical Abstracts, Industrial and Engineering Chemistry, and its News Edition. There is no official British equivalent to " Industrial and Engineering Chemistry," but there is a periodical very similar to it in general appearance called " The Industrial Chemist," which is published by a London firm. In my opinion steps should be taken to ascertain whether it might

not be practicable to rearrange the publications of the two Societies in the following way :

- (1) Chemical Transactions. To contain the Transactions of the Chemical Society and the Transactions of the Society of Chemical Industry in those cases where no elaborate illustration of plant or apparatus is required (published monthly).
- (2) Abstracts A and B published together.
- (3) A publication on the lines of "Industrial and Engineering Chemistry" to contain the Transactions of the Chemical Society and of the Society of Chemical Industry in those cases where elaborate illustration of plant or apparatus is required (published monthly).
- (4) "Chemistry and Industry"—the news edition—(published weekly containing the Proceedings of the Societies).

Publications 2, 3, and 4 should yield considerable revenues from advertisements—especially (3), and it is possible also that this publication might be regarded by the Institution of Chemical Engineers as a means of issuing its more elaborate papers.

It is not my intention to suggest ways and means by which the above result can best be accomplished. Such a problem will have to be most carefully investigated by a Joint Committee of both Societies, but it cannot be denied that there is a certain degree of unnecessary duplication between chemical publications as a whole, and that if this duplication could be removed and the various publications consolidated an increased circulation would be attained, especially among the outside public, with a consequent increase in the number and quality of the advertisements. The object to be achieved is the unification of our chemical publications by bringing together under an Editorial Board the publications of two and possibly more constituent Societies, and to include with these such outside publications as circumstances may permit.

Finance.

It is assumed that the publications mentioned above could be carried into effect for the same or a less sum than that now necessary to produce the existing publications of the two Societies. Now, the total membership of the Chemical Society and the Society of Chemical Industry, allowing for those members who belong to both, is of the order of 8,000,* and the main question that arises is this, Is it possible that a reduction in the present rates of subscription to the two Societies could economically be effected in the case of joint membership of both Societies? For example, would it be financially possible to allow all joint members the right to receive

* In this and similar cases I have purposely kept to round numbers.

the publications suggested above on payment, say, of a subscription of £3 10s. instead of the £5 10s. which they would pay under present conditions? * The obvious answer to this question is that any such scheme would have to be retrospective and include those members who already belong to both Societies—some 1,000 in all—leading to a considerable loss of revenue. This, however, need not act as a deterrent to the introduction of the new system, because the 3,000 members of the Chemical Society who are not now members of the Society of Chemical Industry and the 4,000 members of the Society of Chemical Industry who are not now members of the Chemical Society would have the option of paying the composite fee and receiving the full benefits provided, but those who do not take advantage of this option would have to give extra payment for such publications as they may require over and above those to which their individual subscriptions entitle them.

The chief hardship would undoubtedly rest with those who are already members of both Societies, because, as stated previously, the Societies could not face the financial loss entailed by those members paying a composite fee which would be considerably less than they now pay to both Societies. A change such as that contemplated must be gradual, and no action must be taken that will lead to a sudden drop in the annual income of either Society.

For the time being, therefore, the members who already belong to both Societies would have to continue to bear the cost of the full subscription to each Society, and the reduced or joint contribution could only be made operative in the case of new members.

The essence of the proposed scheme is that *new members must be required to join both Societies*. It is true that the present joint members might easily resign and re-join under the new scheme, but this would have to be prevented by Regulation. The joint contribution of £3 10s. which I have suggested is purely tentative: the right figure can only be determined by the Joint Committee of the two Societies with actuarial help. I have merely suggested it to form the basis of investigation, but I do not think it is far wrong.

For many years to come there would, therefore, be the following classes of members :

- (1) New members who must join both Societies at a composite fee of, say, £3 10s. annually.
- (2) Old members of the two Societies who would continue to pay (ex gratia) their present contributions to both Societies.
- (3) Old members of each Society who would continue to pay their present contributions as members of each Society and remain such unless they signified their desire to become

* It is suggested that all entrance fees should be abolished.

joint members, when they would pay the composite contribution of £3 10s.

Those who decided still to remain members of each Society would continue to pay the subscription required by each Society, but such members would receive, free of charge, only those publications which each Society regarded as adequate.

If, therefore, this scheme is workable actuarially and is agreed to by the Societies concerned, it means that after the lapse of, say, thirty years, membership would be confined to Class 1 only, and the two Societies, while having their own President, Officers, and Council, and thus retaining complete autonomy as regards organisation and finance, would have a common membership and joint publications. The scheme must be examined carefully by an actuary, but it is thought that the loss of revenue, due to the composite subscription, would be more than compensated for by the increase of membership due both to new members joining and to those old members of Class 3 who elect to become joint-members. Personally, I feel some sympathy with the members of Class 2, being one of them myself, but I feel sure that most of them will realise that the action suggested is necessary in the interests of co-operation.

Let us therefore devote our energies in the immediate future firstly towards making the scheme for a central House an accomplished fact not only by giving help ourselves, but also by inducing others to help. It must be remembered that the membership of the constituent bodies combined in the scheme amounts to over 20,000, and that if each of these members acts in the manner suggested above a substantial sum towards the cost of the scheme will be forthcoming. Secondly, let each member of our two Societies do what he can to further the scheme of amalgamation, based on some such plan as I have outlined in this address. Difficulties there are sure to be, but most difficulties of detail can be settled when the broad outlines of the scheme are established.

There is undoubtedly a strong feeling among members of both Societies that the time has now come to close, in some measure, the break made in 1881. If that feeling is real and if strong opposition is lacking from either side we shall achieve the object in view and bring about a union which circumstances now favour and which, in the opinion of many of us, is in accordance with the best interests of the two Societies and of Chemistry generally. If no union can be effected at the present juncture it will be due to opposition from within, and those opposing must remember that the same set of conditions is not likely to recur for many years to come and that failure under the very favourable circumstances of the moment will probably mean complete failure hereafter.

We have, in effect, the opportunities of forming a Chemical Society divided into two administrative sections, each section autonomous as regards internal administration and finance but with unified publications and a membership gradually becoming common to both. The Councils of the two sections would continue, as hitherto, to deal with routine administration, leaving the work of the section to be carried out, as at present, by Committees of Council. Financial matters would have to be arranged "pro rata" by a Joint Financial Board, but each section would have its own Finance Committee for the purpose of financial administration within its own domain.

The Publication Committees of each section would continue to function as now and would determine which of the communications submitted to them should be published and in which publication. There would have to be a joint Editorial Board composed of members of both Councils, whose duty it would be to direct the publications issued jointly.

The Bureau of Chemical Abstracts, which under the proposed scheme will deal with the unified abstracts and the joint indexes, would continue to act as it does at present and would retain its present constitution. The Library Committee would also retain its present form and carry out its work in the same manner.

Regarding the two other constituent Societies, the Institution of Chemical Engineers and the Institution of the Rubber Industry, the former has already expressed its wish to be associated with British Chemical Abstracts, and it may be possible that the variety and scope of the other publications for which provision is made under the scheme will appeal to this body as a suitable means for publishing its scientific and technical communications. If this should happily be the case, the Institution would have to be represented on the joint Editorial Board and on the joint Finance Board. Unfortunately, it is not possible in this case to arrive at a common membership, since the Institution is, in part, a professional body, the membership of which carries a qualification. So far as the Institution of the Rubber Industry is concerned steps must be taken to ascertain in how far and in what manner it is prepared to be associated with the scheme.

It will probably require twelve months' work on the part of a joint Committee to elaborate all necessary details and explore every avenue leading in the desired direction, but let us be ready, when the fiftieth anniversary of the foundation of the Society of Chemical Industry occurs next year, to put forward a well-conceived and agreed plan of amalgamation which can be put into operation at once.

The Dyestuffs Act.

In my address last year I mentioned the Dyestuffs (Import Regulation) Act as illustrating one of the ways in which Government could co-operate in order to protect "young and struggling industries against competition from similar but established industries abroad." This Act was passed in December 1920 and came into force on January 15th, 1921. It prohibited, for a period of ten years, the importation into the United Kingdom of all synthetic dyestuffs and all intermediate products used in their manufacture, but permitted certain materials not available in this country to be introduced by licence.

The Act, which has been of very great value in assisting the establishment of a Dyestuffs industry in this country, comes to an end, therefore, at the close of this year, unless it should be extended for a further period.

There is perhaps a tendency in certain quarters to-day to consider the Dyestuffs industry only from the point of view of the supply of dyestuffs to the colour users. There is, however, another very important aspect to which we as members of the Chemical Profession must give full consideration. I refer to the fact that a successful and well-established Dyestuffs industry establishes in the country having such an industry a certainty of development in the field of organic chemistry. Firms are enabled to create large research organisations employing many of the most capable chemists in the country, and from these organisations there arise all kinds of organic developments, not alone in dyestuffs, but in very many other branches of industry.

Such Research Organisations are recruited from the Research Schools in our Universities and University Institutions, leading not only to the employment of many research chemists trained therein, but also to their own development.

The history of the great German dye firms in the past has shown this clearly, since most of the successful lines into which these firms have ventured have arisen from research work carried on originally for the Dyestuffs industry. It appears important, therefore, that a broad view should be taken of the establishment of a Dyestuffs industry, and that full weight should be given to the importance to the nation of the development of Organic Chemistry.

During the Great War the importance of this was clearly seen, for not only did the great German Dyestuffs firms assist from the military point of view—they also operated very extensively in regard to many organic developments which were of an entirely civil character.
