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Science in the Public Service and Industry.

WE commented last week upon the appointment of a committee to inquire into matters affecting the functions and staffs of certain research and experimental establishments of departments of Government. This inquiry is, of course, separate from that of the Royal Commission on the Civil Service which Mr. Baldwin recently announced would be appointed. We trust that the change of Government will not mean that this Commission will be dropped. A really wider issue than that of the position and functions of the technical expert in the Civil Service is involved; indeed, the time is ripe for an inquiry into matters affecting the position and responsibilities of the man of science and the technologist generally, in industry as well as in the public services.

For some considerable time a suspicion has existed that matters affecting the status and responsibilities of the technical expert are very far from satisfactory in Great Britain. As regards the public services, it is possible nowadays, more or less, to gauge the situation, owing to the existence of the many specialised vocational associations which have, in recent times, been formed within the Civil Service and the Local Government Service for the purpose of protecting the interests of their members; practically all these associations periodically issue publications dealing with their activities, and thereby give an insight into the nature of the problems to which attention has been devoted. Furthermore, the Royal Commission on Local Government appointed on Feb. 14, 1923, under the chairmanship of Lord Onslow, has during the past twelve months taken evidence from some of these vocational associations, particularly in relation to the duties and status of the technical offices under the local authorities; in this evidence the practice of the central government has been touched upon, and its attitude towards its technical officers has been contrasted with that of the local authorities towards their chief officers who are engaged mainly on technical duties.

In industry, no institutions with objects identical with those of the vocational associations referred to above exist; consequently, it is more difficult to obtain generalised information regarding the status and responsibilities of those engaged on the technical side of industrial and commercial undertakings. In view of the great national importance of the subject, individual inquiries have been addressed in relation thereto to a number of persons engaged on technical duties in some of our

industries. As might be expected, the information collected shows that in industry the conditions vary very widely, and also that the attitude of the chief officials responsible for the conduct of the affairs of various important concerns differs to some extent in relation to the status and responsibilities which should be assigned to the section of the staff which deals with the technical work. In some cases the chief officials are unresponsive to the changing conditions of the times (needless to say, to the detriment of the businesses they control), whilst on the other hand, happily, many such officials are broad-minded, progressive, and ever ready to meet the altered, and altering, conditions imposed by the more intense trade competition arising from the more exacting requirements due to increased scientific knowledge and to the high technical skill and ability of the staffs of their foreign competitors.

Our inquiry into this subject has disclosed the fact that in industry old prejudices are gradually dying, and that, in recent times, a considerable improvement has taken place in the status of the men of science and the technologists who follow their careers in the commercial world. There is still room, of course, for further improvement, which will no doubt come about in time; the matter seems to depend upon two factors, namely, on the introduction in our industrial enterprises of an organisation adapted to meet the very complex technical requirements of to-day, and on the willingness of the technical expert fully to qualify himself for the more important administrative posts by devoting his time not only to the study of subjects of a strictly scientific and technical kind, but also of those bearing on the administrative and economic aspects of his work.

The improvement in the status of the man of science and technologist to which attention has been directed is due, it has been suggested, to the rise and growth of the electrical industry. It has been pointed out that many of the successful businesses connected with this industry have been founded, developed, and managed by men who have had the advantage of a scientific education and of a technical training; many of the most important posts are still held by a type of man with similar qualifications. Being an entire newcomer, and probably also by reason of the fact that much technical knowledge was involved in almost every decision, this industry was not hampered at its birth by some of the harmful traditions that have tended to limit the sphere of usefulness of the technician in the same way as

has been, and still is to some extent, the case in some of the older ones. The new policy has very greatly benefited the electrical industry and has enabled it to reach a flourishing condition.

Now, a very cursory examination of the information contained in books of reference indicates that the improvement in the status of the technician is not confined to the electrical industry; almost simultaneously with its birth an infection seems to have spread to other industries. It is on record that in 1883, when the late Sir William (afterwards Lord) Armstrong first founded his famous Tyneside shipbuilding works, he entrusted the organisation and the directing of this establishment to a technician, who some years later became Director of Naval Construction and Assistant Controller of the Royal Navy. At subsequent dates, some of our railway companies selected officers from the technical side of their undertakings for high administrative posts. Again, the chemical industry affords instances of chemists who have risen to the control of huge interests and have done well as administrators. Men with technical knowledge and experience are also now occasionally appointed as directors on the boards of companies; this is so not only in the cases alone of those concerned with activities of an industrial kind, but it also applies equally to those whose interests are mainly financial or commercial.

Apart from the government services and industry, there are the great municipal services. The Royal Commission on Local Government now sitting has received a considerable volume of evidence on the aims and objects of the various vocational associations by witnesses representing them, and questions have also been raised by other witnesses as to the desirability, or otherwise, of arranging for interchanges of duties on the part of civil servants and local government officers by temporary transfers of staff from government departments, particularly the Ministry of Health, to the offices of local authorities, and vice versa. Moreover, a proposal involving a fundamental change in the constitutional fabric of municipal government has also been put forward, namely, one relating to the appointment in our municipalities of a 'chief officer' corresponding to the burgomaster, who is supreme in relation to municipal affairs in certain continental cities, or of a person possessing the authority and the responsibilities of the city manager who is now in charge of municipal affairs in many important American cities. Neither proposal, however, is given much support by local government officers.

The town clerk, who is generally a member of one of the legal professions, is, by an almost immemorial custom, recognised as the principal officer of the Local Authority; he is *primus inter pares*, and, apart from the particular duties of his own department, co-ordinates the various services of the council, in order to avoid overlapping and to prevent a course being taken by one department without consideration for its effect on another department. It is, however, recognised that it would be most improper for a town clerk to criticise or interfere with a technical officer in the carrying out of the technical duties assigned to him; that is to say, the technical officers under a local authority severally exercise their functions independently of the town clerk. The practice of local authorities differs, therefore, very widely from that of government departments; in the latter case, the technical branches are elaborately controlled by the secretary's department.

Some of the members of the Royal Commission appear to have been exercised in their minds with regard to the difference of treatment meted out to the two types of officers, the administrative and the technical, in the national civil service and in the local government service; in consequence, questions were put to some of the witnesses with the view of eliciting the reasons why in the latter service it is those with technical qualifications who hold the positions of 'chief officers', and it is considered that there is no field in it for the person without technical qualifications—the 'skilled administrator'—although in the case of the Civil Service the former type of official "did not get to the top of it", whereas the latter type did so invariably.

It has been pointed out that the difference in the treatment of the two types of officers in the two services may be accounted for historically; whereas the first services entrusted to a municipal corporation were of a character which required technicians at the head of them, on the other hand, the responsibilities of government departments originally involved the consideration of problems in which the administrative aspect predominated. It is further suggested that county and municipal councillors themselves do the administrative work, and rely directly on their officials for technical advice. A century ago, ministers of the Crown were able to do, and personally did, a great deal of the administrative work of their departments, but, with the increasing complexity of the problems to be dealt with, the methods then in vogue went out of date and had eventually to be abandoned. The

system which was introduced later for dealing with the work of government departments has, in its turn, become obsolete.

In the evidence given before the Commission, strong adverse criticisms have been made regarding the narrow rules of the Civil Service, which, as a matter of practice, prevent an officer on the technical side, however well fitted and qualified he may be for the position, being promoted to the higher administrative posts. In view of the fact that administrative ability of the first rank is so rare, the policy which prevails in the Civil Service in relation to this matter has been characterised as being inexpedient, short-sighted, and unjust.

It is essential that ministers of the Crown should frankly recognise that government departments have completely outgrown the organisation with which they are now endowed, and even that their own positions therein, and the functions they are attempting to exercise, which are very similar to those of a general manager, no longer conform with the requirements of the day.

Alterations of a far-reaching character are, in consequence, needed in the organisations of our government departments. One of the principal features of the reconstruction of such departments should be such as to provide that the functions assigned to ministers in charge of government departments shall correspond with those of a chairman of a board of directors, or of a commission, and that they shall be aided directly by a body of highly qualified technical experts occupying positions somewhat similar to those of the directors of a company, and be given a distinctive title; for example, they might appropriately be called 'commissioners'. If such a reform was carried out in a whole-hearted manner, ministers would be placed in a better position than at present to obtain the technical advice required in connexion with the formulation of their policies, since it would reach them at first-hand. If, further, each of these 'commissioners' was also charged with responsibility for both the administration and the technical work of the various specialised branches of a government department, immediately under the direction of the responsible minister, the management of the public services under the central government would be more efficient and economical than is the case to-day; and the ministers themselves would also be placed in a position to exercise their proper functions more effectively, and, consequently, their usefulness and the value of their work to the State would be enormously increased.