CURRENT SCIENCE—50 YEARS AGO

The Indian Research Council.*

The appointment of the Marquis of Zetland as the Secretary of State for India may be used as an appropriate opportunity for reviving the question of the establishment of the National Council of Scientific Research. His Lordship, during his tenure of office as Governor of Bengal, evinced great solicitude in promoting the cultural advancement of this country, and in April 1933 he caused a circular letter to be issued to a select body of scientists and representative leaders of public opinion in India, offering assistance in case they should agree to co-operate with him in founding an Indian Academy of Sciences and Arts. It may be recalled that almost simultaneously, but independently, *Current Science* in its issue for May 1933 published an editorial in which cogent reasons were put forward for the institution of an Indian Academy of Sciences. Where His Lordship and this Journal contemplated a single authoritative institution, the movement initiated by them resulted in the inauguration of two scientific bodies, *viz.*, The Indian Academy of Sciences and the National Institute of Sciences. Both on grounds of finance and of expediency we deprecate plurality of institutions, and one of our co-operators wrote to us as follows on this subject:

> "The danger, of course, is that if we attempt to establish too many scientific bodies requiring support from Governments and Universities, we make it more difficult for existing institutions to continue: it must be remembered that at present we find it sufficiently difficult to obtain adequate support for the Indian Science Congress and for our journal—*Current Science*."

The existence of multiple scientific bodies of the Academy status must make it increasingly difficult for the Central Government to recognise the claims of any one of these bodies as the official expositor of scientific opinion in India, and must definitely retard all proposals for the establishment of a National Advisory Board of Scientific Research. In this connection, our co-operator from whom we have already quoted, makes the following significant observation:

> "It so happens, however, that some three years ago, a committee of heads of scientific departments of the Government of India was called upon to advise on the question of the formation of a National Research Council and of National Committees in India to adhere to and co-operate with the International Research Council and its Unions. We expressed the opinion that the formation of such a council was desirable although the conditions were not favourable for the institution of a National Research Council on lines analogous to those followed in most other countries for the reason that there was in India no body comparable to the Royal Society of London, the French Academy of Sciences, etc. The present position is that the project for the formation of a National Research Council in India is in abeyance for lack of funds; but ultimately when the financial situation improves and it becomes possible to consider again the formation of such a Research Council, it will be easier to form such a Council on lines analogous to those existing in other countries, if, in the meanwhile we have formed an Academy of Sciences in India of the nature projected in your (Editor's) circular."

At present we are confronted not so much with financial stringency as with a complicated situation such as few could have visualised in May 1933, and we are afraid that if it is not promptly and wisely handled, it is capable of postponing indefinitely the establishment of a Research Council in India. For, it is obvious that all the four institutions which claim to occupy the status of an all-India character cannot fulfil the functions which only a strong Central Body can perform. The confidence which such an authoritative institution enjoys will be sufficiently high as the Marquis of Zetland pointed out in his circular letter, "to consolidate and expand the intellectual interests within its own sphere of influence; while the standard which it maintains must necessarily provide example and inspiration for scientific work of the greatest significance; and the estimation, in which it is held by the International Associations should make its membership to be coveted as a distinction of meritorious and important scientific investigations."

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* Published in *Curr. Sci.*, June 1935, Vol. III, p. 589.

Those who have been following the trend of modern scientific progress in this country must have noticed two distinctive features. The first characteristic is that a close and steady co-operation between different groups of investigators,—medical men, physicists, chemists, biologists and engineers,—is almost indispensable for an adequate solution of all social and economic problems. The second is that scientific discoveries in any one branch of science, whether theoretical or applied, find direct and ready application in apparently unrelated branches of knowledge. We have several research institutions in India equipped and maintained by Government subsidies, and it is obvious that investigations in them should proceed uninterrupted by the fluctuations of financial assistance and the inhibitions of departmental influences. There is therefore a great need for a control agency for the prevention of overlapping of effort and the duplication of expenditure of national revenues. It ought to be one of the functions of such an institution to secure the intimate co-operation of the medical, agricultural, industrial and forest research departments and stress the importance of a clearly defined policy of scientific investigations in these departments for the promotion of the national health and the economic efficiency of the country. It seems to us that the functions of the Research Council should not be restricted to the encouragement of co-ordination of research work alone, however important and necessary it may be for the intellectual advancement of the country. In a sense and perhaps for some time to come, this body must occupy the status and fulfil the functions of the Parliamentary Science Committee in Great Britain. It should seek opportunities for establishing a link between science and Government on the one hand, and on the other, between science and society. It ought to assume the responsibility of promoting discussions in the Council Chambers of Federal India, on scientific subjects in their application to economic policy and national well-being. It may even be necessary and desirable to arrange for occasional addresses by scientific authorities to the principal political parties of Legislative Assemblies and to assist the Government in all measures and acts which involve the application of modern scientific method. The usefulness and importance of the Research Council will, to a large extent, be tested not merely by the scientific prestige to which it might attain, but also by the measure of confidence which it induces in the Central Government on whose bounty it has to depend, and the extent of influence which it exerts on national affairs.

Such a conception of the functions of the representative scientific organisation was recently elaborated by our contemporary '*Nature*,' and was also emphasised by Sir Mirza M. Ismail in his opening address at the inaugural ceremony of the Indian Academy of Sciences.

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The value and usefulness of the proposed Indian Research Council must naturally depend not only on the readiness of the Government of India to utilise its services and to support it financially, but also on the willingness and preparedness of Indian Scientists to co-operate with one another, and with governments and their scientific departments. The spirit of exclusiveness and the provincial outlook, which unfortunately overtake scientific achievements only too often in India, must be fatal to the growth of public institutions and to the creation of expert scientific opinion, capable of influencing the policies and projects of Government. It is true that almost all the practical problems of a administration involve scientific factors, and it is equally true that the absence of a representative organisation, which could provide Governments with a reasonably adequate unanimity of expert opinion on the control and administration of the life of the community, must account for much useless expenditure of public revenues. If the scientists would show any disposition to set their house in order and also their willingness to reach agreed settlement in matters relating to their departments, then the Government of India may be expected to appreciate the value and need of advice from those who by their foresight, character and capabilities acquire a right to be consulted. The one essential factor for the establishment of the Indian Research Council is a modification of the existing policy, spirit and outlook of public scientific bodies, which must merge into a single representative organisation, so as to command the esteem and confidence of Governments, Universities and the general public.

The new Secretary of State for India who, as Governor of Bengal, had, more than any other administrator, evinced the greatest practical concern in the promotion of the cultural life of this country, and whose interest in the scientific progress of its people had never abated even in the midst of his other pre-occupations, may be expected to use his rare influence in establishing a right relationship between science and Indian administrative problems. Professor F. O. Bower once acknowledged that it was owing to

the energy and enthusiasm of Lord Balfour that science was welcomed into the inner circle of Imperial Administration; and India may confidently hope that the critical and constructive mind of the Marquis of Zetland may formulate a plan which would ensure a reasonable appreciation of the value of science in the administrative departments of the Government of India. We hope that an atmosphere favourable for initiating a movement for the establishment of the Indian Research Council will soon be produced by scientists in India who, by reason of their knowledge and capabilities, are entitled to exercise a greater control over such administrative problems of the country as fall within the range of scientific influence. These problems should no longer be permitted to be entrusted to the hands of those who have no first-hand knowledge of science, and the first step in this direction is to remove the reproach that India is practically the only civilised country without a National Research Council, to which the Government of India could look up for advice and guidance in all practical measures affecting the moral and material advancement of the people.

NEWS

SMOKING: MORE THAN JUST A BAD HABIT

. . . "Ovide Pomerleau [Veterans Admin. Medical Ctr., Newington, Conn., and U. Connecticut Sch. of Medicine] reviewed scores of recent studies on the nature of cigarette smoking. Though avoiding withdrawal from nicotine addiction is a major reason many smokers cannot break the habit, it is not a complete explanation. . . . Studies show that 10 cigarettes a day will satisfy [the need for nicotine] in nearly all smokers. Then why do many people smoke more than half a pack a day? . . . New research is showing that nicotine affects the synthesis, release and turnover of a wide variety of brain chemicals that are fundamentally involved with mood and behavior. It is being studied in conjunction with a host of brain substances and structures—the so-called classical neurotransmitters, receptor sites, neuropeptides including endorphins and pituitary hormones. The emerging picture is that a smoker can fine-tune the way his or her brain responds to the events of daily life. . . . The way [nicotine] is delivered to the brain further reinforces the hold it has on people. Within seven seconds of puffing a cigarette, a quarter of the nicotine in inhaled smoke enters the brain. . . . To the smoker, this means the wanted effects of nicotine are available on demand. Furthermore, the way the smoke is inhaled affects the response. Studies are showing that short quick puffs—low doses—tend to stimulate or arouse brain function and behavior. Deep, full drags—high doses—create the more sedative, relaxing effects of smoking. This may mean that different personality types use smoking to reinforce preferred behavior patterns. Type A people (competitive, impatient, hostile) might take shorter, smaller puffs to enhance arousal. Type B personalities (relaxed, laid back, less achievement-oriented) might take larger puffs to promote relaxation."

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