

POST-WAR ORGANISATION OF SCIENTIFIC RESEARCH IN INDIA.

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(Read at Symposium, September 27-28, 1943.)

1. My inclination is against contributing to symposiums as they generally result in nothing concrete. However, as I found that no geologist was speaking it seemed advisable to at least contribute some suggestion which might lead to the assemblage of a useful and authoritative note representative of the Institute as a whole.

2. In geology I could only speak for myself—that remark applies indeed to any speaker present at this meeting. None of us represent other than our personal views. I have already reviewed elsewhere what might be done in post-war geological development in India, as also have others, and it seems unnecessary to repeat these views.

3. The precise object of this symposium is the *organisation* of Post-war Scientific Research in India. I would suggest that that objective be rigidly adhered to, and philosophical discussions eliminated.

4. Pure and industrial science form the two ends of a series. The work at one end—pure scientific research—is possibly the function of universities. Investigations at the other end—industrial research—are the function of commerce, and of certain national research units and of Government Departments. Pure science will always be accompanied by some applied results, and industrial research will produce by-product results interesting to pure science. Liaison between the two is sufficiently covered by publications. In stating that the function of Universities is mainly that of pure scientific research, one does not mean that Universities should not undertake any industrial research, but pure science should be their principal object. The term 'Industrial research' must be taken to include both scientific and technological research—there is indeed no hard and fast line of demarcation between these two lines of investigation.

5. In any organisation of national research there might, accordingly, be some co-ordination between Universities, Government departments, commercial laboratories and various national research units. To what extent co-ordination is necessary, however, it is difficult to say. I personally fail to see the necessity for regimentation of research under a National Research Council. Each research body knows best its own line of research. It might be contended that such a Council would perform a useful function in preventing *unnecessary* overlap, but overlap in research is not to be deplored.

6. As I see it, the administration of national research in this country would best be placed under one administrator and one deputy administrator, who, in my view, would be in a better position to perform the functions of a National Research Council, which would be an unwieldy composite body consisting of many members. These two officers—the administrator and the deputy administrator—would, however, have full powers to co-opt whoever they wish, to discuss and allocate for research any special problems put up to them.

7. However, these are purely my personal views and, as I have said above, this symposium can only result in the emergence of personal views. We should, however, make some attempt to find out what are the views of the Fellows as a whole, and prepare a composite note to represent the authoritative opinion of this Institute on Post-war National Research in this country. The method I would adopt to prepare such an authoritative note, representative of the Institute as a whole, is as follows:

(a) We may accept the fact that the Institute contains the dominant men in all branches of science in India.

(b) I would suggest that the Secretary divide the Fellows into groups, each group representing one branch of science. One Fellow should then be selected from each group—these selected Fellows, representative of each group, would form a full Research Committee.

(c) The Fellow representing each group would then prepare a note comprising concrete proposals for organisation of research in his science, eliminating from his note all philosophical discussion and keeping it as concise as possible.

(d) His proposals would be printed in galley form and circulated to the Fellows of his group. If his group is extensive, as possibly in the chemistry section, his note would be circulated to a sub-committee of say ten in his group. Each Fellow will return his copy amended as he thinks fit, and adding, if he wishes, alternatives to some of the proposals.

(e) The amended galleys of each group would then be segregated into a single draft by the representative for each group and submitted to the Secretary and President. The Secretary and President will then put up a 'general note' on the organisation of research in general as distinct from that in each science.

(f) The draft 'general note' will be first circulated amongst the members of the full Research Committee and amended as necessary.

(g) Finally the full note, comprising the general note and group notes, will be circulated amongst all Fellows. Alternative views will be included to take care of strong differences of opinion, and members can be asked to vote on these alternative views before the final note is prepared and printed off.

(h) If the above procedure is followed with energy, final proposals should be ready by the Annual Meeting in January. Time limits should be given to each stage.

(i) Each group note should follow definite terms of references, such as—

- (i) proposals on the part to be played by (A) Universities, (B) Government departments, (C) Research Institute, (D) Commercial bodies;
- (ii) is a National Research Council necessary?
- (iii) finance and administration of research units.

(j) The general note by the President and Secretary should discuss allocation of work, co-operation and co-ordination between the various groups and should also discuss the means of publication of results, finance, size of administration of a National Research Council if such a body is necessary, the part to be played by Government, etc.