

should not seek to control the action of any person. Its primary function is to determine the truth and state it accurately. The college should not have placed upon it any commercial, executive, or police duties, nor should it be the policy of the State to appropriate money to the State Department of Agriculture for education or investigation, nor should it be the policy of the State to appropriate money to the College of Agriculture for regulatory purposes."

This differentiation of function the Commission found to be general throughout the United States of America except in Indiana, where opinion favoured the transference of regulative functions to the College of Agriculture. It is also (with a reservation to which reference will be made immediately) the practice in Great Britain, where research is left to the University colleges and endowed institutions such as the Lawes Agricultural Institute at Rothamsted and the John Innes Institute at Merton. The action of the Federal Government of the United States of America in establishing and maintaining great laboratories for research into the many aspects of agriculture is not really a contradiction of this principle and practice, for it is to be remembered that the United States Government has no administrative or regulative functions in this field, except possibly in Alaska and in its overseas dependencies. While it seems to me obvious that the college must be the central research organ, it appears to me to be both convenient and desirable that a Department of Agriculture should possess a scientific staff competent to undertake investigations into problems of immediate urgency with which the Government may have to deal administratively. It is not, as has been suggested, so I am informed, that the Department should limit itself to "applied" research as distinct from "pure" research, for the only distinction between the two is one of motive or aim. The method of both is the same. If work is done in order to solve a specific practical difficulty the research is "applied"; if the motive is merely the advance of knowledge it is "pure." The distinction I would draw is one of urgency, not in the scientific or agricultural but in the administrative or political sense. Administrative Departments of State which are the engines placed at the disposal of Ministers must in the main be directed by the policy of their political superiors, and Ministers are restricted in their policy by many forces over which they have at the best but limited control. What is needed for agriculture is a scientific organization free from these limitations—aided and supervised by the State, but trusted because it is competent.

Proposed New Agricultural College.

23. The recent agreement between the Colleges at Auckland and Wellington to pool their resources for agricultural education as the nucleus of a new national college of the first rank seems to me to be very hopeful. With a well-qualified staff on a scale generous enough to give them time for original investigation, it will produce the men that are needed for the industry; for the special institutes that must gradually come into existence for the intensive study of its particular branches; and for the service of the Government itself. Ultimately it is likely to attract to itself other University studies in the interests both of the students and of economy, and so to become, as did the University of Wisconsin in America, and more recently the University College at Reading in England, a full fledged multi-faculty University.*

Special Institutes for Particular Branches of Agriculture.

24. It is assumed that the Agricultural College, if established, would be aided from the votes of the Department of Education like other University institutions; but I suggest that around it and in close intellectual co-operation with it, but distinct from it in management and finance, there should be established, as opportunity offers, a group of specialized institutes devoted to the study of particular branches of the industry, and financed partly by funds contributed by the industry itself and partly from the general funds provided by the Government for scientific research. Each institute should be managed by a Committee on which men of science (selected by the central organization), the appropriate administrative Department or Departments of Government, and the industry would be represented, and in this way the views and activities of each of these three groups would be brought under a single review and the necessary team-work secured (each organization represented should be required to table its plans). Experience at Home has shown that it is useless to direct Departments or institutions to co-operate with each other, but that if the scientific workers in each can be brought together round a table with a common purpose the desired co-operation comes about. At present this spirit of co-operation is absent, and I have found evidences of an unwillingness to consider it so long as the present separation of authorities exists.

An Institute of Dairying.

25. The first and most urgent need, in my opinion, is the establishment of an Institute of Dairying. The dairy industry is the one branch of agriculture which shows marked expansion of production in recent years. Indeed, there has actually been a general falling-off in the production of wheat, wool, and meat. Yet less scientific work has been done for the dairy industry than for any branch of agriculture, not excluding fruit or forestry. In the by-products of the industry—e.g., casein (and its derivative products), sugar of milk, and lactose—the little work done has been by private effort. It is not suggested that expensive or elaborate buildings should be provided in the first instance. To begin with, room could probably be found for the work in the College laboratories. Nor should a large special staff be required at first. The professor would naturally be the head of the Institute, and a carefully selected assistant or two for research, assisted and supplemented as time

* A site to be suitable should be easy of access from all parts of the Island, adjacent to but not within the boundaries of a town of size sufficient to supply the necessary supplementary services, and on soil neither too good (for in that case the possibilities of experiment will be restricted), nor too poor (for, alternatively, it will be impossible to show results of wide application). Soil-variety within moderate limits is to be desired.