

EDITORIAL

NOTES ON THE SCIENTIFIC POLICY OF THE FIELD STUDIES COUNCIL

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IN his Presidential Address to the Field Studies Council on 21st October, 1947, Sir Arthur Tansley referred to the Council's primary function of education and to the need to 'spread the conviction that our wonderful heritage of nature demands . . . active protection and that wide avenues must be opened for the development of its *usefulness* to the people'. He proceeded to explain that "usefulness" was meant in the broadest sense to include the benefits arising from an increased sensitivity to beauty and harmony in our surroundings and from the satisfaction of the inherent desire to know and understand the world we live in, as well as the material usefulness of that knowledge and understanding for agriculture, forestry, the proper utilization of water resources, coastal defence and many other fields of applied biology.

If we accept this view, as I am sure we must, that the proper function of the Field Studies Council is to guide the people of this country to a greater awareness of the spiritual, intellectual and material value of field studies, it follows that the Council must have a definite policy designed to achieve these ends. These notes draw attention to some of the scientific aspects of that policy.

A scientific policy may be implemented through any or all of the Council's activities: the ordinary and special courses held at the Field Centres, the scientific work of the staffs of the Centres, the work of independent researchers visiting the Centres, and the journal *FIELD STUDIES*.

(1) *The ordinary courses for schools*

These, the most important and the most widely known of the Council's activities, have definite aims which may be summarized under two headings:

- (a) to stimulate interest in field studies and so to arouse an informed love of the countryside which may lead to a responsible attitude towards problems of land-utilization, rural planning and nature conservation;
- (b) to introduce the basic facts and concepts of the field sciences: the diversity of living organisms and the principles of classification; natural communities of plants and animals adapted to their environment; the basic role

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of the photosynthetic organism, productivity, food-chains; the development and classification of soils and subaqueous deposits; cycles of essential nutrients; the ecosystem and its short-term and long-term changes in response to changes in the various controlling factors; the fundamental relationships between geology and climate on the one hand and topography and land-utilization on the other; past and present modes of human exploitation of the environment.

The courses necessarily vary in content with the age and previous experience of the groups to be taught. They also vary from Centre to Centre, methods of approach and illustrative material being chosen in the light of local resources; but all Centres share the same basic aims.

(2) *The specialist courses*

These give opportunities for instruction in topics for which a given Centre is specially appropriate or in which its staff happens to have a particular interest. They are valuable because they attract older, more experienced and perhaps more able students, and they could become very important instruments of the scientific policy of the Council.

(3) *Scientific work of the staffs of the Centres*

Under this heading is included personal research by members of Centre staffs and also investigations and observations directed by them. Taken together these activities will play an increasingly important part in making the Centres genuinely scientific institutions; and indeed, when he first founded the Field Centres Mr. F. H. C. Butler stressed this vital aspect of their work.

(a) First in importance is the personal research of individual members of Centre staffs, arising out of their own interests and enthusiasms. It is essential for the continued scientific vigour of the Centres that this kind of personal research work should be encouraged and should never be crowded out by apparently more urgent tasks of teaching and administration. It is pleasing to see that Wardens and other members of staff have already contributed several papers to this Journal, and it is much to be hoped that this will always be so. It is also to be hoped that, when the period of active development is nearing its close, members of staff may be enabled, from time to time, to spend some winter months in universities or research institutes where they may learn new techniques and take part in courses or discussion-groups.

(b) A second important type of scientific activity already being undertaken by staffs of Centres is the accumulation of basic information about the areas round Centres. Data of this kind have been published in *FIELD STUDIES*, and the Council's intention is that there should be a steady collection and publication of a body of information about each Centre. The data should include lists of organisms of various types, with keys and with biological and ecological notes, meteorological statistics, ecological, geomorphological, geological, archaeological and historical data and also information about land-utilization and local industries. Some of this information will be collected by members of staff themselves

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- but much help can be obtained from visiting scientists and, to some extent, from members of groups attending school or specialist courses.
- (c) The Council's Centres are very favourably placed for undertaking a further invaluable service to field scientists by embarking on a carefully selected series of long-term observations of various kinds. Such observations should include records of permanent quadrats sited where changes are believed to be in progress; of the fate of adult plants and seedlings in different types of stable and changing vegetation; population studies of various birds, mammals, Lepidoptera, etc.; the spread of immigrant organisms of any kind or of mutants like the melanic forms of Lepidoptera; quantitative records of types of land-usage, domestic animals, farm-machines, etc.; occurrence of fires, tree-felling and tree-planting, etc.; depths of water-table and of wells; drainage schemes; maps showing the progress of haggling of peat, erosion of stream-banks, etc. No one Centre can undertake continuous records of all these kinds, so that careful planning will be essential. The value of certain kinds of records may be greatly enhanced if they are being collected in more than one area, while others will not need to be duplicated. It will therefore be important that Wardens should discuss programmes and arrive at a co-ordinated scheme of recording: there should clearly be a co-ordination of methods of recording also, so that data from different Centres may be made comparable.

The value of long-term observations of this kind can hardly be over-emphasized. Anyone who has attempted to write, say, a text-book of ecology will realize the paucity of dependable data for the support of the most commonplace of generalizations.

The two types of data discussed under (b) and (c) above have the further value that they will make the Centres much more attractive to independent research workers as bases for their investigations.

(4) *Independent Research Workers*

Some few research students have resided at Centres for shorter or longer periods while engaged in work for higher degrees, and this should be encouraged as much as possible. As has already been pointed out, the Centres will become progressively more attractive to such workers as basic local information and long-term records accumulate and become familiar to academic scientists. Most Universities have Ph.D. regulations that make it readily possible for research students to spend part of their time out of residence but, in some instances it may be useful for Wardens to be able to offer small financial concessions to such students. To have independent research students working at a Centre is not only stimulating for the members of staff, but is an important added source of interest and encouragement to those attending courses. It may prove possible to build up a close association between certain Centres and nearby Universities, with some exchange of facilities and assistance.

(5) *The Journal FIELD STUDIES*

It will be clear from the frequent references already made, as well as from the editorial foreword to the first issue of the Journal that FIELD STUDIES

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has an essential part to play in the scientific policy of the Council, in particular as a medium in which to publish scientific papers relating to the areas surrounding the Field Centres. These papers will be of two main types: research papers in the narrow sense, and contributions of the kinds dealt with in paragraphs (b) and (c) on page 2.

(These notes were the subject of a talk given at the meeting of the General Committee of the Council on 1st October, 1960.)