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## Concluding Discussion

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## Concluding discussion

### *Future research in Antarctica*

- J. E. SMITH. It is clear from our discussions that there is a real need for continuity of research in the Antarctic. But the fact of our being able to hold this first meeting of British scientists at which a series of interrelated papers on the terrestrial and fresh-water Antarctic ecosystem have been delivered is most encouraging. We have been able to spotlight certain major problems in the fields of energy flow and population interaction which are in need of further study. I invite your comments on plans for the future.
- M. W. HOLDGATE. There seems every reason for concentrated work now on productivity and energy flow studies, especially with IBP getting under way.
- S. W. GREENE. It seems that in many Antarctic studies, great value would result from a coordinating of methods and particularly the presentation of data. For example, in the 1961–62 season, temperatures at plant level were measured by resistance thermometers simultaneously on South Georgia, Signy Island and on the Ongul Islands, but in the published results, each set of data is presented in a different way, so reducing considerably the number of possible comparisons. If a standard method of presentation, for at least a minimum amount of basic data, could be coordinated through SCAR, I am sure that the results would be extremely worthwhile.
- M. W. HOLDGATE. The new SCAR programme in biology has a section on bioclimatology in which the need for liaison with technologists and others is stressed. It may well be that we should urge our meteorological colleagues to make the recording of incident radiation a part of the synoptic observations of all Antarctic stations. There will be other fields in which a concerted approach could yield similar benefits.
- G. E. FOGG. The IBP/PT committee has a section on meteorological methodology, and IBP is currently involved in the preparation of methodological handbooks. It is desirable that liaison be established with IBP and that whenever possible the results of their technical meetings are notified through SCAR to Antarctic workers so that inter-comparable results are obtained.
- M. W. HOLDGATE. SCAR and IBP already have very close liaison, and this is an item which could well go on the Agenda for the SCAR Working Group in Biology at its meeting this September.
- J. E. SMITH. Research results depend on research facilities and organization. Can we finally consider the needs for improvement in these respects, in a national context? Do we for example, have sufficient taxonomic underpinning? Is our methodology good enough? Do we offer the right jobs to get the right people? Can we get senior people to and from the Antarctic quickly enough?
- S. E. ALLEN. The weakness of the work of British Antarctic Survey seems to me to be the lack of continuity in its scientists. Men who have only just taken their first degrees

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are sent to the Antarctic after only three to six months research training, and while they are south—for as long as two and a half years—they are hampered by inefficient communications. Once they return and write up their research, they leave. Now that Antarctic research is becoming more sophisticated we should emphasize that it will become more difficult to obtain top-quality work from temporary and inexperienced staff.

- R. B. HEYWOOD. Dr Smith mentioned taxonomists. We certainly need to encourage the study of grossly neglected Antarctic groups such as Rotifera, Tardigrada, and Nematoda, all of which are of key importance.
- S. W. GREENE. I agree with much of Mr Allen's criticism, but warmly welcome a more recent trend whereby recent graduates who lack field knowledge and training are sent south for a summer in the first instance, return to Britain for four months, and then go to the Antarctic for 18 months of continuous efforts.
- M. W. HOLDGATE. I have been impressed by the high standard of work done over a long period by the staff of *Discovery* investigations, and am sure continuity played a leading part there. It seems to me that we must try to get more senior men to do Antarctic work, and this can be achieved in part by persuading more university colleagues to go south for short periods as summer visitors, but even more by offering a real research career to suitable men at the conclusion of their first tour of Antarctic duty. Even if such men went south also largely as summer visitors, they would bring continuity to the work and give supervision to junior colleagues. If we had a nucleus of two or three staff members at Senior Scientific Officer or higher grade making repeated visits to the south it would help a good deal. The other need is to continue the recent trend of recruiting more men with previous research experience.
- N. A. MACKINTOSH. Certainly in *Discovery* we had a group of men who felt sufficient assurance of long-term support to take on the work as a semi-permanent service, and this did yield great benefits in terms of continuity and accumulated knowledge.
- C. H. GIMINGHAM. The employment of senior men may be very desirable. However, for the present we might achieve closer supervision if every new recruit was attached personally to a specialist supervisor in a home university, with whom he maintained regular communication, at least monthly.