

## REVIEW

M. J. RUBIN, *ed.* *Studies in Antarctic meteorology*. Washington, D.C., American Geophysical Union, 1966. vii, 231 p. (Antarctic Research Series, Vol. 9.) \$14.

THIS volume contains seven papers on various aspects of antarctic meteorology with the following titles: "A case study of katabatic flow on the South Polar plateau", by H. H. Lettau; "South Pole micrometeorology program: data analysis", by P. C. Dalrymple, H. H. Lettau and S. H. Wollaston; "The drifting of nonuniform snow particles", by W. F. Budd; "The Byrd snow drift project: outline and basic results", by W. F. Budd, W. R. J. Dingle and U. Radok; "A study of ice accumulation and tropospheric circulation in western Antarctica", by W. W. Vickers; "Climatological observations in ice-free areas of southern Victoria Land, Antarctica", by C. Bull; "A physical climatology of the Antarctic plateau", by P. C. Dalrymple.

In the general introduction to this series it is stated that the papers which appear "represent original contributions too lengthy or otherwise inappropriate for publication in the standard scientific journals"; but those in this volume could easily have been adapted so as to be suitable for the scientific journals. The longer of them would have benefited from shortening or division, and all would have gained from stricter refereeing. To publish the papers in book form implies a degree of lasting importance which they do not possess and probably restricts rather than widens their readership. This book will appeal to few individuals, and to only those libraries with special interest in this field.

The inadequacy of the editorial supervision is well illustrated by the table of Appendix D of the paper on the snow drift project, where an excessive number of figures is given for every quantity listed and some snow drift densities (accurate to perhaps 10 per cent) are quoted to six significant figures.

Comments on the papers themselves can be confined to a few brief general remarks about the snow drift project and the micrometeorological programme, which are the two most important scientific investigations reported here. The design of these would probably be rather different if they were being planned today, but from the viewpoint of the time when the decisions had to be taken it was probably as good as one could expect. Even so, one is inclined to wonder why it was decided to conduct the micrometeorological programme at a location as inaccessible as the South Pole. The observations seem to have been made in a most careful and painstaking way, and the data collected are undoubtedly valuable. However, some aspects of the presentation raise doubts about the quality of the scientific effort devoted to its analysis.

The discussion of the micrometeorological programme is almost wholly in terms of ideas a decade old, and some features, such as the manner of the introduction of the displacement height,  $D$ , suggest a lack of physical understanding. There are minor faults in the discussion of the snow drift project of the same type. For example, the authors fail to realize that the snow drift density is more important than the temperature in determining the density for use in a Richardson number. In fact, one can easily see from the author's measurements that in conditions of strong snow drift the Richardson number may be quite large near the surface and decrease upwards. This might be expected to have an appreciable effect on the wind profiles, and although the modification would be greatest close to the surface where wind measurements were not possible, the closeness of the observed profiles to the logarithmic form is surprising (at least at first sight). It would be interesting to see a simple theoretical discussion on this point, both for its own sake, and to see whether the apparent variation of  $z_0$  with wind speed could be explained.

These comments are not intended to detract from the value of the field observations in any way; but it can do no harm to remind agencies which sponsor expensive expeditions in this and other fields that they have a responsibility to see that adequate resources are devoted to working up the results. Scientists capable of giving sound up-to-date advice on projects like these are scarce and possibly reluctant to offer the necessary time and effort, but it really is important that whenever possible their services should be secured.

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