

The author's style is possibly a trifle heavy and it is perhaps inevitable that a work of this kind becomes somewhat monotonous and repetitive with all its quotations, details and figures. This in no way alters the fact that we have here a valuable and solid work which is likely to remain the authoritative one on the subject for a long time and to which one turns with the utmost confidence.

In the English translations those of the numerous notes and references have been omitted that were considered to be of interest only to readers with a good command of Danish who might consequently be referred to the Danish volumes. The separate indices of personal names, place-names and subjects of the original volumes have been brought together in one sequence and abbreviated, but as the Danish terms for organizations, official bodies, titles, etc. have wisely been kept, a glossary has been appended. The work is interestingly illustrated, though not profusely so. It obviously cannot have been easy to find a great deal of suitable contemporary material. The colour plates in the Danish volumes have been replaced by reproductions in black-and-white in the translations.

### RUSSIAN ARCTIC EXPLORATION

[Review by Terence Armstrong\* of *Charting the Russian northern sea route. The Arctic Ocean Hydrographic Expedition, 1910–1915*, by L. M. Starokadomskiy. Translated and edited by William Barr, Montreal and London, Arctic Institute of North America and McGill-Queen's University Press, 1976, xxiv, 332 p, illus, maps. \$18.95.]

William Barr has put us all in his debt by producing this excellent edition of a major narrative. The work of this series of Russian expeditions has been familiar to English-speakers only through relatively short accounts in geographical journals or histories of exploration. The work carried out was, in Professor Barr's words, 'the first modern attempt at a systematic survey of the arctic waters to the north of Siberia', and it deserves to be better known, for it laid the foundation for operation of the world's major polar sea route.

The two small icebreakers that carried the expedition, *Taymyr* and *Vaygach*, were specially built for the occasion. The participants were enthusiastic rather than knowledgeable in polar techniques; but they acquired knowledge from season to season (there were five voyages, the first four annual and the last overwintering at sea), and ended by making a notable contribution. The great geographical discovery was Emperor Nicholas II Land, later renamed Severnaya Zemlya, the archipelago north of Taymyr, the most northerly projection of the Eurasian mainland. Starokadomskiy was *Taymyr*'s doctor; his story is straightforward and factual, and full of enthusiasm for the expedition.

Professor Barr has done a first-class job in his dual function. As editor he is unobtrusive, supplying a good short introduction on the historical background and, in notes at the end, just as much supplementary information as one needs. He notes a curious feature of the book. The Russian original appeared in three editions, published in 1946, 1953, and 1959. The second and third are closely similar, but the first is remarkably different. The differences are of two kinds: the mention in 1946 of a number of members of the expedition of whom the Soviet regime disapproved—notably of Captain Kolchak, in 1918–20 a leader of the anti-Bolshevik forces—was excised; and a whole series of anti-American passages, absent in 1946, were inserted. These insertions stand out sharply, their shrill tone contrasting strongly with the gentle and reasonable tenor of the rest, so one may suppose the good doctor had nothing to do with them. Indeed, some of his friendly remarks about Americans were also modified or cut in the later editions. There are in fact more instances of insertion (eg on p 34 and 109) than Professor Barr draws our attention to; but he has made the point well enough. The curiousness of all this, of course, lies in the fact that the 1946 edition should have got through.

As translator, Professor Barr has succeeded well in producing an accurate and smooth-reading text. Spot checks reveal only one actual error (southwest for southeast on p 140) and one or two misleading nuances in verbal tenses. In view of this, it is odd that several proper names should

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turn up in odd forms—Tanoy-Bogorazoy for Tan-Bogoraz, Pal'tse for Palets, Akuliniy for Akulin, and others—due to failure to find the right nominative from an oblique case. In general, let it be said, Barr is excellent with proper names and particularly place-names, where he sticks firmly to the forms approved by the official British and American place-name authorities. Some other small points may be mentioned. The Laptevs were cousins, not half-brothers (p xix). The American interested in the Russian north-east was Vanderlip, not Vanderslip (p 290, 316). West to east should be east to west on p 296. Letuya Bay should be Lituya Bay (p 281). Note 37 on p 307 is missing. It would have been helpful to indicate that N. A. Tranze preferred to spell his name Transehe in Roman type, for he later published under that form in the USA (indeed, a paper of his is relevant to the present work). The index would be more useful if the longer entries were split up by sub-entries. The printers have unfortunately printed extended quotations in bold type, thus giving them an unwarranted appearance of greater importance than the surrounding text. Of course, none of these details seriously detract from the value of the book.

## POLAR SOILS

[A review by John T. Andrews\* of John C. F. Tedrow's *Soils of the polar landscapes*. New Brunswick, New Jersey, Rutgers University Press, xxvi, 638 p, illus. \$60.]

In recent years one or two eminent polar scientists have produced books which embody much of their active research interests and thus span many years of polar experience—for example, A. L. Washburn's 1973 publication, *Periglacial processes and environments*. The present book by John Tedrow is a similar attempt to synthesize his own and others work on polar soils. The book is unique in the English language, and will certainly find considerable use by soil scientists, geologists, geomorphologists and biologists.

The book is lengthy and consists of 22 chapters plus an extensive bibliography, a general index and a soils index. Considering its length and complexity I would have been delighted if Tedrow had spent just a short amount of time explaining the purpose and organization of the book. The former may be self-evident, but I could not provide an easy explanation for the order in which some of the chapters occur; for example, a chapter on 'Systems of polar soil classification' comes seven chapters before one on 'An approach to polar soil classification', and 'Cryogenic processes and patterned ground' occurs well before a complementary chapter on 'Patterned ground and the genetic soil'.

The book consists of four broad subject groupings: (1) an informative introduction on the early history of polar soil science; (2) a series of five chapters that are in effect looking at the separate variables in the Jenny soil equation (a soil is a function of: climate, vegetation, parent material, topography, and time); (3) chapters dealing with soil classification and the characteristics of the major polar zones, namely the Tundra Zone, the Subpolar Desert Zone, the Polar Desert Zone, and the Cold Desert Zone, and, finally, (4) a regional synthesis of the major soils in six regions (Arctic Alaska, Greenland, Norden, northern USSR, Antarctica, and alpine areas).

The book is encyclopaedic in coverage and reflects the experience of over 26 years. It is not a book that people will read cover to cover, except for the few polar soil specialists, but it will be used repeatedly by a great number of polar researchers. The overall reaction to the book will depend, I am sure, on one's discipline. From the viewpoint of a Quaternary geologist I had two reactions. The first is that it will be a major source of information on soil types within the regions that I normally work. This pulling together of such a mass of data is a tremendous help to researchers on the outer fringe of soil science, but who use soils for their own purposes: My second reaction was that I would have liked to see Tedrow consider the problem of time rather more fully than he does; indeed I think the influence of Quaternary glaciations and other climatic changes on the polar landscapes and deposits could have been more strongly emphasized. A chapter on 'Time' would have complemented those on 'Climate', 'Biötic factors' and the other main controls of soil forming processes.

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