

REVIEW

V.M. KOTLYAKOV, ed. *Glyatsiologicheskiy slovar'* [Glaciological dictionary]. Leningrad, Gidrometeoizdat, 1984. 528p.

This glaciological dictionary, as it is called, is almost an encyclopaedia. It is far the fullest reference work of its kind in any language. It contains 2200 terms, and covers glaciers, snow cover, avalanches and mudflows, sea, river, and lake ice, icings, ground ice and permafrost, and atmospheric ice. Moreover, the entries go much farther than simple definition of the term (though that is, of course, given too); they include explanatory comment and dwell particularly on the natural processes associated with a given term. There are about 60 half-tone illustrations (not always of highest quality), and a number of diagrams.

The book was compiled by an impressive team led by V.M. Kotlyakov. The working group of twelve was set up in 1977 by the glaciology section of the Interdepartmental Geophysical Committee attached to the Presidium of the Academy of Sciences of the U.S.S.R. Kotlyakov himself explains the structure and organization of the work in an editor's preface, and then goes on to write, with N.A. Stolyarova, a most interesting essay "On the development of glaciology and the establishing of glaciological terminology" (p. 11-30). In this essay the authors trace the influence of different disciplines on terminology, and then examine the relationship between Russian and English terminology. They write perceptively on terms with multiple meaning — how a word in ordinary literary use may be defined more exactly for scientific use, and then perhaps further re-defined. This brings them to the question of synonyms, and they explain that the dictionary, whilst including most of them, attempts to reduce their numbers by favouring one alternative above the others. Difficulty arises, of course, when synonyms are not quite exact and a case can be made for retaining both despite a measure of overlap.

The dictionary also contains a list of references (316 entries) and a list of locally used terms (400 words). These last are words or phrases linked with snow and ice, and used in different corners of the U.S.S.R. — words which may be taken from the minority languages (Kazakh, Kirgiz, Chukchi, etc.) or from regional dialects of Russian. It turns out that many terms in current scientific use were originally regional.

In the dictionary itself there are four types of entry: long articles (about 500 words) "outlining the history of study, the physical reality, and the distribution of the phenomenon"; medium articles (about 250 words) "giving the essence of the phenomenon and its form"; short entries, "sketching the characteristics of the phenomenon"; and cross references. Most of the articles are signed. Long articles are on such phrases as crystallography of ice, stability of snow on slopes, or classification of ground ice. They often contain diagrams; thus the entry for ice chart includes four

pages of conventional signs used on such charts. Medium articles are, for example, on density of ice, radioactivity of snow, and katabatic wind. They also include biographical sketches of leading glaciologists. Short entries cover, for instance, glacier ice, fast ice, and sastrugi. It is not always easy to see just what has determined the length allotted to each term. Inevitably, the decision must in many cases have been fairly arbitrary.

With so many terms included, and given the extent of Soviet work in glaciology over recent years, it is to be expected that some terms will be relatively unfamiliar to western glaciologists. Here are two examples of short entries, one a familiar term and the other less so.

Calving of glaciers (synonym *breaking-off of glaciers*). The breaking-off [*otkalyvaniye*] of icebergs from glaciers which terminate in sea or lake. This takes place regularly as a result of the movement of the ice to the sea; a direct cause of calving is often the turbulence of the sea and especially big waves of baric origin. The term was proposed by seamen and generally refers to the formation of pyramidal icebergs, an event accompanying the break-up of the ice at sea. The breaking-off of large tabular icebergs from ice shelves is more properly called fracture [*oblom*] of icebergs.

Technical ice. Ice used for technical purposes — in construction, in the refrigeration industry, in transport. Prepared by laminar or spray freezing, sometimes cut (broken) from natural ice masses. Often strengthened by the introduction of additives — sand, gravel, timber/fibre materials, glass wool, and others. See also *wood ice*, *foam ice*, *sand ice*, *plastic ice*.

It will be observed that translation of the two entries just given raises some problems. There will be terms which are recognized, or gaining recognition, in Russian, but which have as yet no counterpart in English usage (fracture of icebergs in the sense given, plastic ice). Whose job, then, is it to formulate an English equivalent? And how is acceptance gained for it?

The editor very properly calls for comments and corrections. The process of defining and developing terminology must be a dynamic one if knowledge is to advance. He also states that work is now in progress on a glossary of the basic terms in five languages — English, French, German, and Spanish in addition to Russian. This will be a difficult job, partly for the reason just given, but if it is well done the end-product will be extremely useful. We are already much in the debt of the Soviet glaciologists for giving so much thought to basic problems of terms and definitions in Russian. The debt will be greatly increased when the five-language version appears.

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