

by Leo Aario on the development of vegetation and climate in Finland in late glacial times. Professor R. Finsterwalder deals in Section V with the regime of glaciers.

Section VI contains three papers on the causes of the ice ages, W. Wundt writing on the effect of the earth's orbit, Wilhelm Meinardus on the principle of radiation and W. Behrmann on pre-glacial climate.

On preceding pages there is a review of three other publications devoted entirely to glaciological subjects—all evidence of the growing importance of these studies as they become redeemed from pure conjecture and approach more nearly the realms of exact science. G. SELIGMAN

ABSTRACTS

BROOKS, C. E. P. Climatic fluctuations and the circulation of the atmosphere. *Weather*, Vol. 5, No. 3, 1950, p. 113-19.

Solar influences cannot be entirely ruled out, but the interaction of winds, ice and ocean currents may produce weather variations of sufficient intensity and duration to cause a transition from one type of climate to another. Briefly refers to past and possible future oscillations. [G. S.]

CAHN, R. W. Recrystallization of single crystals after plastic bending. *Journal of the Institute of Metals*, Vol. 76, Part 2, 1949, p. 121-43.

Experiments have been carried out to determine under what conditions it is possible to procure in deformed crystals a special type of recrystallization which leads to discontinuous asterisms in the Laue patterns. It has been found that bent single crystals are particularly liable to this type of recrystallization, which has been observed with zinc, magnesium, aluminium and rock-salt. The microstructures of the bent and of the annealed specimens have also been examined; the annealed specimens consisted of many crystallites separated by straight boundaries perpendicular to the slip planes.

The theory of the phenomenon is discussed, and it is concluded that it is the result of the motion of dislocations during annealing. The bearing of the results on the general theory of recrystallization is briefly considered. [From author's abstract.]

CAILLEUX, ANDRÉ. L'indice d'éroussé: définition et première application. *Comptes rendus sommaires des Séances, Société Géologique de France*, No. 13, 1947, p. 250-52.

The index of "bluntness" (l'indice d'éroussé) which though similar in aim should be distinguished from the index of "roundness" of Wentworth and others, is designed to assess the wearing of pebbles, quickly and without ambiguity. Measurements were made on 7000 stones from a hundred different formations, 70 from modern, 20 from Pleistocene and 10 from pre-Pleistocene materials. Assuming the rock is of the same type, marine abrasion is more active than that of rivers, whereas glaciers wear the rocks very little. They confine their action mostly to polishing and breaking. Subglacial streams, however, are powerful agents of abrasion. The rates of wearing of the more common rocks examined in the following order: flints, gneiss, volcanic rocks, quartz, limestones. [W. V. L.]

CROCE, KARL. Messversuche an Schneeräummaschinen für Landstrassen, Entwurfsgrundlagen. *Fortschrittsberichte aus dem Strassen- und Tiefbau*, Bd. 4, 1950 (Strassen- und Tiefbaugesellschaft m. b. H. Berlin), 58 p., diags., illus.

Results achieved in Germany up to 1945. Six tested snowfraisers and snow-throwers are described and their basic functions explained. The mechanism of clearing is examined and mathematical fundamentals are deduced from the results of distance of throw, quantity of snow cleared, capacity of absorption and of clearing, efficiencies and losses. In order to define the workings of these machines certain concepts are laid down. The mutual correlation of such characteristic figures derives from working diagrams which have given good service. The big range of the low efficiencies obtained, amounting to from 5 to 45 per cent, indicates that snow-clearing machines are not as perfect as they might be. Nothing has evolved so far on this important subject from other countries with large snowfalls. [Author's abstract.]

DEEVEY, EDWARD S., jr. Biogeography of the Pleistocene. *Bulletin Geological Society of America*, Vol. 60, No. 9, 1949, p. 1315-416. Pleistocene research. A review by the members of the Committee on Interrelations of Pleistocene Research, National Research Council. 3.

Pleistocene biogeography has many points in common in North America and Europe, these regions differing in the character of their problems from Africa, south-east Asia and South America. An attempt to summarize facts by means of fauna and flora with considerable stress on pollen. Full bibliography. [From author's outline.]

FARROW, R. C. Report of Committee on Snow, 1947-48. *Transactions of the American Geophysical Union*, Vol. 30, No. 3, 1949, p. 444-47.

Brief notes on new work and methods, conferences and papers relating to snow in North America and especially in western United States and in British Columbia. Reference is made to work in Canada and especially to G. J. Klein's proposals for "Nomenclature for Snow" which it is suggested might well form a basis for a general standard nomenclature. [From Canadian Geophysical Bulletin Abstract (J.T.W.)]