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Origin of the Pebble Band on Iowan Till

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The minimum duration of glacial time in Iowa was calculated to be about 30,000 years.

The evidence used in reaching judgments as to the durations of the interglacial ages was gained chiefly from extensive field studies in Iowa of relative depths of leaching of calcium carbonate in similar materials which throughout their times of leaching were similarly situated topographically and climatically. Leached gravels of known ages were compared. The differences in depths of leaching are the result of the different lengths of time to which the gravels were subjected to weathering agents. The depth of leaching of upland gravels in the Late Wisconsin drift was determined to be about two feet six inches. This depth of leaching has been the result of exposure to weathering since the retreat from Iowa of the Late Wisconsin ice sheet. This time has been estimated to be about 25,000 years. With this rate of leaching of gravels as a unit estimates were made of the lengths of time involved in the leaching of other gravels of known ages. The results given in this paper for Iowa are as follows: Post-Late Wisconsin time, 25,000 years; post-Iowan time, 55,000 years; Sangamon interglacial time, 120,000 years; Yarmouth interglacial time, 300,000 years; and Aftonian interglacial time, 200,000 years. The combined durations of Aftonian, Yarmouth, and Sangamon interglacial ages, and of post-Iowan, total about 675,000 years.

The combined minimum estimates of glacial and interglacial ages give a total of about 700,000 years.

STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

ORIGIN OF THE PEBBLE BAND ON IOWAN TILL

GEORGE F. KAY

(*Abstract*)

According to one view the pebble band on the Iowan till is the result of wind action in a marginal area during the retreat of the Iowan ice. An alternative interpretation is that the pebble band is the result chiefly of the erosion of Iowan till by running water, considerable time having been involved in its formation.

Evidence which strengthens the former of these two views has been found recently in Greenland by Dr. W. H. Hobbs of the

University of Michigan. Here pebble bands are now being made by wind action in marginal areas adjacent to existing glaciers.

STATE UNIVERSITY OF IOWA,

IOWA CITY, IOWA.

THE IOWAN GRAVELS IN NORTHEASTERN IOWA

PAUL T. MILLER

(Abstract)

The gravels related to the Iowan glaciation of northeastern Iowa have been studied in the field and laboratory. Three factors were significant in the field correlation, (a) stratigraphic relations; (b) topographic position; and (c) amount of weathering. In the laboratory the size, range, shapes, and lithology of the gravels were studied but little of value for correlation purposes was obtained.

The Iowan glacier advanced over an irregular erosion surface, depositing a sheet of till with an average thickness of less than ten feet. Due to the thinness of the Iowan till, it did not obliterate the pre-existing topography and form a plain as had the preceding Nebraskan and Kansan till sheets, but spread over the surface as a blanket, only modifying the over-ridden topography. As the ice melted, gravels were deposited at three general locations, (1) within the till; (2) at the surface of the till; and (3) in the valleys beyond the melting ice front.

STATE UNIVERSITY OF IOWA,

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TRENTON LIMESTONE IN IOWA

CHARLES KEYES

(Abstract)

Of late, stratigraphic taxonomy and correlation take on new trend from that to which the last generation is accustomed. They neither go to the paleontological extreme in which the life-zones are regarded as passing around the globe like the successive skins of an onion, nor do they severely restrict themselves to the lithologic, or "mapping unit" extreme, in which faunas are largely, if not entirely, ignored. As in so many cases in science generally the truth really lies somewhere midway between the extremes. But the new trend has altogether different basis from that presumed for