Glacial Marks

Arthur Goshorn
correctly the mechanics of their intrusion and the type of intrusive body they represent; (3) apparently they have been the source of the gold in a rare genetic type of potential ore deposit.

**STATE UNIVERSITY OF IOWA,**

**IOWA CITY, IOWA.**

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**DEVONIC CHRONOLOGY IN IOWA**

**CHARLES KEYES**

The most important geological discovery in Iowa in recent years is the revelation that our Devonic deposition is not what it was long thought to be, that is, contemporaneous with the Devonic sedimentation of the East, or New York standard column. Instead of the two widely separated sections being of the same age, as always regarded, our Iowa Devonic rocks turn out to be very much younger than New York rocks. The two stratigraphic successions appear now to have been laid down in altogether different geosynclines, and our western rocks were formed largely out of the ruins of the Eastern rocks.

To be sure, our Iowa Devonics were long known to recline in marked unconformity upon Siluric and Ordovician strata. But in southeastern Missouri, recently, Devonic strata continuous with our Cedar Valley limestones rest in conspicuous erosional unconformity upon the western extension of the New York Hamilton formation. So in Iowa, our so-called Hamilton is obviously not the New York Hamilton by any means, as so long so confidently regarded, a fact indicative of a hiatus much wider than heretofore suspected. Fortunately most of the fossils occurring in the Iowa Devonic rocks have been described as different from those of the New York Hamilton and now our organic forms urgently need to be analyzed anew.

**DES MOINES, IOWA.**

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**GLACIAL MARKS**

**ARTHUR GOSHORN**

Opening a quarry on the southern edge of a Middle River bluff, the quarryman exposed 20 feet of the top layer of limestone. The top face of the limestone was covered with glacial scratches, hun-
dreds of them running parallel north and south. The scratches marked the direction of floor of the ice. The valley of Middle River here is deep, and its course is east and west. A number of large boulders, house size, on the uplands on the south side of the river show that the valley must have been filled with ice when the boulders crossed the river and valley.

WINTerset, Iowa.

AN ESKER-LIKE DEPOSIT ON THE MIDDLE TETON GLACIER

L. R. Wilson

During August of 1939 an esker-like deposit was observed on the surface of the Middle Teton Glacier in the Grand Teton National Park, Wyoming. The deposit, a slightly sorted gravel and clay ridge, was approximately three feet high, four feet wide, and one hundred yards long. In its north to south course over the glacier, the deposit extended over the top of a boulder that projected approximately eight feet above the ice surface. South of the boulder, the deposit lay in a shallow trough scoured in the glacier. Information received from the mountaineering guide indicates that upon the glacier more than eleven feet of snow was present in the early summer. It appears that under this snow and in contact with the glacial ice the esker-like deposit was formed.

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