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Petrography of Two Iowa Loess Materials

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FOSSILS OF THE PEORIAN LOESS IN IOWA

CORNELIA CAMERON

The fossils of representative sections of Peorian loess in Iowa have been examined in detail for the purpose of determining the conditions under which the loess was deposited. In most cases samples were collected at six inch intervals. The shells, pulmonate gastropods, were washed, identified, and charted in order of their vertical occurrence.

The majority of species have equivalent modern forms whose habitats are known. Assuming that their mode of living was approximately the same as in the period of loess deposition, ecological conclusions may be drawn.

Each section gives a history of local change of moist and dry conditions to which the flora and fauna adapted themselves as the loess accumulated. Taken collectively the group of fossils indicates that the loess was deposited upon a rising succession of forest and prairie floors whose characters were not essentially different from those in the state today, and that they lived in a climate which could have a mean average of ten degrees lower than the present. Apparently the temperature which caused the melting of the Iowan ice sheet and provided the material from which the loess is derived was favorable from the beginning for the development of plant and animal life at not a great distance from its retreating border.

DEPARTMENT OF GEOLOGY,
STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

PETROGRAPHY OF TWO IOWA LOESS MATERIALS

F. LEICESTER CUTHBERT

A research project, in the Department of Geology at Iowa State College, has as its purpose the investigation of the petrography of Iowa clays and soils. The investigation, at present, is concerned with two loess, subgrade materials which behave differently as roadbeds but are similar as far as ordinary physical tests are concerned. The samples are being subjected to fractionation by a

supercentrifuge, complete chemical analyses, X-ray analyses, microscopic study and base exchange determinations. Work, to date, suggests that the colloidal portions of the two materials differ in their mineralogical character; one apparently containing as its principle clay mineral, illite, the other, a mineral of the kaolinite group.

DEPARTMENT OF GEOLOGY,
IOWA STATE COLLEGE,
AMES, IOWA.

SOME QUARTZITE PEBBLES

CHARLES CARTER

Near Luverne in Southwest Minnesota a ledge of quartzite extends northeast to southwest for a few miles. At one point along this ledge a quarry not now in operation has left an almost perpendicular face of some fifty feet. In this face are found crevices of varying widths. In one width of 8 to 12 inches and running back an undetermined distance, angular fragments of quartzite were found. Among them some rounded pebbles were obtained. The feature called to your attention is the symmetrical form and the highly polished surfaces of these pebbles. The surfaces of some are nearly as well polished as that on the quartzite in Gitchie Manitou Park in Northwest Iowa. The polishing there has been attributed to the work of the wind carrying fine sand or soil. The pebbles from the crevice show no glacial scratches or markings. Some water, especially that of melting snows, may be a factor in the polishing. But the chief cause is probably the wind carrying fine particles and circulating through the crevice.

PARSONS COLLEGE,
FAIRFIELD, IOWA.

THE GEOLOGY OF GREENE COUNTY, IOWA

WILFRED B. TAPPER

A layer of Wisconsin drift ranging up to 150 feet in thickness mantles the better part of the bedrock surface of Greene County. The shales and coals of the Pennsylvanian Des Moines series are limited to three townships in the southeastern part of the