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Geosynclinal Concept

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the old. It is diastatic in character. So that some of our long recognized geological formations manifestly have much wider expanse, and others very much more restricted distribution than latterly it is the disposition to assign to them.

Recent plotting of the diastatic movements through the ages for the eastern half of the North American continent gives some quite unexpected results in respect to our state of Iowa. The diastatic scheme indicates that the early entrants into the Iowa geological field are not far from right in referring, for instance, our Dubuque section to the New York Trenton, despite the circumstance that their faunal concepts are quite erroneous and that the fauna is really altogether different, a fact which leads the paleontologists to interpret the Iowa section as entirely distinct from that of New York. Although the paleontologists are far from leaving us with that impression, the Trenton limestone appears to have been laid down during one of the greatest transgressions of the sea over the continent that the latter has ever experienced. So that Trenton limestone is a proper title for one of our Iowa formations.

DES MOINES, IOWA.

LARGER PROSPECT OF OUR LÆSS MANTLE

CHARLES KEYES

(*Abstract*)

It is exceedingly unfortunate and disturbing that the loess deposits of our state should ever have been mixed up with the glacial tills, when, indeed, they have no more to do with glaciation than the bed-rock itself. Loess, being mainly wind-borne dust derived from Southwestern deserts, and a deposit being continuously laid down far and wide, inside and outside of the glaciated areas, throughout glacial, as well as interglacial, times, is doubtless being deposited over our state as rapidly and as extensively as loess ever accumulates. It should not, therefore be associated, genetically or otherwise, with our glacial deposits; but be considered wholly apart.

DES MOINES, IOWA.

GEOSYNCLINAL CONCEPT

CHARLES KEYES

(*Abstract*)

Repeated reference of late to the presence of geosynclines in Iowa directs attention to the fact that there appear to be really no

such features displayed within the limits of our state. Erroneous use of the term is perhaps largely due to the original misleading composition of the word. It seems not to be realized, even in our text-books, that the feature to which Hall originally referred is an unusually thick body of sedimental accumulation, rather than a structure as many appear to think, or that Dana, who coins the sonorous title, converts the Hall concept into a structural affair rather than a sedimental one, and thereby confuses all who come after.

Hall's notion is obviously the filling of a long, deep trough out of which afterwards is elevated a mountain range; and he estimates from the thickness of the Paleozoics of New York and Pennsylvania, that the Appalachian trough was 40,000 feet deep. We now know that both Hall and Dana are in error. Instead of the Appalachian Paleozoics being a continuous deposition before the uplift of the mountains took place, the tract occupied was never more than a shallow sea, which was repeatedly uplifted and eroded before the next sedimentation occurred. So that Hall and Dana over-estimate the magnitude of the sedimentation, at any one time, more than a hundred fold. In the sense that Dana defines the term there is no such thing as a geosyncline.

DES MOINES, IOWA.