DISCUSSION

Mississippi will be only a mile and three-quarters long, and Cairo and New Orleans will have joined their streets together, and be plodding comfortably along under a single mayor and a mutual board of aldermen. There is something fascinating about science. One gets such wholesale returns of conjecture out of such a trifling investment of fact.

Though written 70 years ago Mark Twain’s moral point is just as keen as if it were written to-day. The blind following of any given line of reasoning can lead to an end result that is truly ridiculous. Or, to state it more plainly, wholesale returns of conjecture from a trifling investment of fact do not always produce the correct answer.

STRUCTURAL DISSIMILARITY OF METEOR CRATER AND ODESSA METEORITE CRATER1

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The study, recently published by Dorsey Hager (1953), prompted the writer to revisit Meteor Crater, Arizona, as well as the main Odessa meteorite crater, in western Texas, and to evaluate certain structural differences. The structural features of these craters have been described previously (Barringer, 1910; Hager, 1953; Merrill, 1908; Sellards and Evans, 1941, et al.).

Structural differences.—The main Odessa crater is markedly circular due to deformation of the rock strata following meteoritic impact. Segments of the rim have been thrust outward. Meteor Crater, on the other hand, exhibits a pronounced linear aspect in accordance with structure (Hager, 1953) and no outward thrusts have been found. A distinct asymmetrical anticline can be seen in trenches on all sides of the Odessa crater, except the eastern where the upper part of the fold was either destroyed during impact or by subsequent erosion. The steeper limb of this ring anticline is away from the center of the crater. The general structure of Meteor Crater, however, resembles a pronounced monocline, on both the east and west flanks, with somewhat lesser dips on the north and south. Downfaulted and downfolded blocks on both the north and south sides apparently constitute a graben-like structure, in spite of diverse trends of the faults.

Conclusion.—The profound structural differences between Meteor Crater and the acknowledged Odessa meteorite crater suggest a non-meteoritic origin of the former. In the writer’s opinion, no compromise involving deeper penetration or more extensive erosion, in the case of Meteor Crater, is acceptable.

REFERENCES


1 Manuscript received, August 20, 1953.
2 Utah State Agricultural College.