

Comment by the Editor

TERRESTRIAL INSTABILITY

The crust of the earth, though made of rock, is not perfectly rigid. It is elastic, like the shell of a chestnut. Ordinary incidents such as explosions, heavy traffic, the force of waves, and even the tread of animals cause the surface to vibrate. Indeed, the land is always trembling, though for the most part too slightly to be noticed.

Natural internal concussions cause the earth to quake most violently. A tremor strong enough to be sensible may be caused by the slipping of strata or indurated masses along some great crack or fault in the bed rock miles beneath the surface. Sometimes earthquakes result from the displacement of rock by deep-seated lava movements during volcanic action. The generation or cooling of steam in underground caverns could cause surface disturbances. And earthquakes have been attributed to the collapse of the roofs of subterranean caves.

Where geologic changes are in rapid progress — along young mountain ranges, at the mouths of large delta-forming rivers, in volcanic regions, and on great submarine slopes — there the adjust-

ment of the inequalities of stress are likely to produce frequent and occasionally violent earthquakes. Japan averages about three shocks a day.

In relation to seismic activity, Iowa is fortunately situated. None of the conditions favorable to severe earthquakes is found in the region between the Mississippi and Missouri rivers. No doubt there are faults beneath the glacial drift and sedimentary rocks, but the stresses are apparently in equilibrium. The nearest active centers, as indicated on a government map, are in the vicinity of the Illinois River Valley, near Vincennes, Indiana, at Saint Louis and New Madrid, Missouri, and along a line from Huron, South Dakota, to Topeka, Kansas.

During almost a century of observation, not a single earthquake has had its focus in Iowa. The seventeen which have been felt originated elsewhere, and none of these shocks has been disastrous. No buildings have been destroyed or lives lost. The tremors have been so faint and infrequent that the history of earthquakes in Iowa is more comic than tragic.

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