

each day one of the windows in his house rattled in the most violent manner. On consulting the local railway time-table, he could find no train running at the hour specified; but on examining another table, which included a separate line, he found that a heavy train passed at the time at a distance of several miles from his house. He then referred to the geological formation of the ground between the two points, and at once saw that there was an outcropping ledge of rock which formed a link of connection between the distant railway line and his home. It was the vibration carried by this rock from the passing train that rattled the window.

#### A REMARKABLE LAND-SLIDE.

THE U. S. geological survey has learned from Mr. C. W. Cross, engaged in field-work at Denver, Col., the particulars of a remarkable land-slide near Cimarron, Gunnison county, which was described in the local papers as an earthquake. Professor Farnham, of the Nebraska state normal school, who chanced to be in the neighborhood, had personally visited the scene of the supposed earthquake; and when he called upon Mr. Cross, and described the appearance of the region, the fissures formed, etc., the latter inferred that a serious disturbance must have occurred along the line of faulting on the west side of the Trident mesa, indicated on the Hayden maps. As soon as practicable, Mr. Cross went to Cimarron. He found the locality about nine miles south of that town, on the east side of the west fork of the Cimarron River. Between the two forks of the Cimarron is a mesa capped by eruptive rock, the valleys on either side being eroded out of cretaceous rocks, apparently the clays of the Colorado group. The area involved extends from the base of the cliffs of eruptive rock forming the top of the mesa, down the slopes toward the valley bottom, nearly to the edge of the belt of timber. Such a crumpling of the surface had taken place, — throwing down forests in inextricable confusion, pushing the ground up into ridges, and leaving fissure-like depressions, — that the assumption by untechnical persons of an earthquake as the cause was not surprising; but, after a two-days' examination, Mr. Cross satisfied himself that there had been no earthquake, but a remarkable land-slide, involving an area of nearly two square miles. It was evident that the surface of the ground had become loosened from the underlying clay beds, probably in consequence of the seepage of water, and that a movement of the area, starting at its upper end, had been thereby instituted in the

direction of the mesa. The lower portion having moved less, or not at all, the ground there had been most thoroughly ridged, fissured, compressed, and overlapped, in such a manner that trees had been overthrown, little ponds drained and new ones formed, and the courses of small streams changed. Ranchmen living near by had perceived no tremor or other evidence of earthquake disturbance, nor could they tell when the movement took place; but they agreed in saying that the rainfall had been unusually heavy. Evidences were found of similar land-slides of earlier date, at various places along the valley, and it seems clear that such slides must have played an important part in shaping out the valley depression.

#### THE 1886 PRINCETON SCIENTIFIC EXPEDITION.

AFTER a most successful working season of over ten weeks, the Princeton scientific expedition has returned from its explorations in the Bridger beds, south-western Wyoming, and the White River country, north-eastern Utah. It will be remembered by those familiar with the history of bad land explorations that this is the sixth expedition that Princeton has sent out to the west. Since 1877, Prof. W. B. Scott and his coadjutors have worked in the Bridger beds and Bitter Creek country of Wyoming, in the White River of Dakota country, in the Yellowstone region, and now in the White River basin in Utah. The result is that the Princeton museum has now a splendid collection of American fossils, less complete, it is true, than Professor Marsh's collection at New Haven, but in some important respects quite equal to it.

The expedition this year started in June last, under Professor Scott's personal direction; but, after the first two weeks, he was obliged to return east, and his place as leader and director of the work was taken by Mr. Francis Speir, jun., of Princeton (1877), who has had wide experience in the western bad lands. Mr. Speir had under his command seven men (mostly Princeton students), a guide, and a cook.

Fort Bridger was the original base of supplies, and the first working camp was on Henry's Fork, an important tributary of Green River, about thirty-five miles south of the fort. Work was begun near the spot where a fine skull of *Uintatherium* was found last year, and careful search resulted in exhuming the remainder of the skeleton nearly complete, and in excellent preservation. Twin Buttes, a spot some thirty miles to the east, was the second working camp, and in that vicinity was found an extraordinarily perfect skeleton of *Mesonyx*; and it is believed that Princeton will