Moqui Indians. It is a fascinating book, both to the scientific and general reader. With a graphic pen he carries you with him on a long trip replete with thrilling incidents, over regions seldom visited. The book savors rather of a conglomeration of detached notes, than a compilation. Perhaps too much was attempted in trying to give a popular account of his trip, and yet preserve the flavor of the note-book written on the spot, which is so valuable for scientific purposes. He seems also to have fallen into the mistake of supposing his readers to be cut off from books, as he unfortunately was, and has filled the larger part of three chapters (pp. 196–225) with quotations which it would have been sufficient to give by reference. The minuteness of detail with which he describes every circumstance seems unnecessary while his travels were in not unknown regions; but they become invaluable when he describes the snake-dance, and his visits to the various Moqui villages. The book consists of an account of a dance in one of the pueblos on the Rio Grande, which is curious from its mixture of old heathen ceremonies with the Roman forms introduced by the Spanish priests; then of his trip through a corner of the Navajo reservation to the Moqui village of Hualpi (pronounced Wolpi), where the snake-dance was witnessed; and then of visits to the other pueblos of the Moquis. These Moquis occupy several isolated *mesas* in north-eastern Arizona, and are by far the most primitive of all the Pueblo tribes. They were not affected even by the Spanish civilization, as were all the other tribes, including the closely related Zuñis, and are to-day almost what they were four hundred or more years ago. Their life, habits, costumes, and industries are described with an accuracy and minuteness which renders the book invaluable to the ethnologist, and yet so entertainingly that no one can fail to be interested. The snake-dance seems to be the last remnant of what was once an almost universal worship among the tribes of North America. Owing to fortunate circumstances and his own coolness and untiring perseverance, Capt. Bourke was able to see even the secret ceremonies of this dance, which no white man has seen before, or will be likely to see so thoroughly again.

The plates accompanying the work are admirable reproductions of the artist's paintings. It is sufficient to say that the paintings are by Moran, and are accurate in color and drawing, as well as spirited and realistic. — a quality generally absent in illustrations of Indians. They alone are worth the cost of the book.

NOTES AND NEWS.

THE meteorological observatory at Tokio has recorded 546 Japanese earthquakes in the ten years ending Dec. 10, 1884. Of these, 334 (or fifty-six per cent) have occurred during the six colder months, and 212 (or thirty-five per cent) during the six warmer months, of the year. Professor Milne's compilation of 387 earthquakes observed in northern Japan in the two years ending October, 1883, however, shows a still greater proportion for the winter months; the percentages being seventy-two for the months from October to March inclusive, and twenty-eight from April to September.

— Prof. J. P. O'Reilly has recently published in the Transactions of the Royal Irish academy a map of Great Britain and Ireland in which he has attempted to graphically represent the earthquakes of the United Kingdom relative to their frequency. It would appear that Ireland has been less subject to shocks than Great Britain; that the points of more frequent action in Ireland lie near or on the coast; and that the south coast of England presents a number of points of activity situated approximately on the same line, in all probability connected with a system of jointing corresponding to the general direction of the coast.

— Dr. M. Eschenhagen writes to *Nature* that the earthquake shock of Dec. 25 last was registered by the magnetograph at the imperial marine observatory at Wilhelmshaven; the Lloyd's magnetic balance, the instrument for vertical intensity, being set in oscillation first at 9.52 P.M., local time.

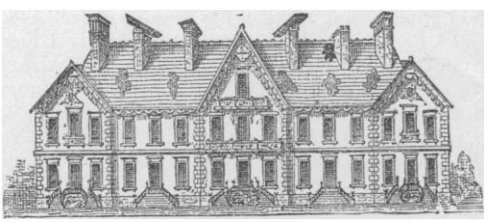
— The earthquake wave of Jan. 22 last in England appeared to the vicar of Bampton to pass directly under his house. A letter from Mr. Edward Parfitt in *Nature* states that it occurred at 8.42 P.M. In the drawing-room at the vicarage it appeared as if a heavy traction-engine was passing close to the window: the window faces eastward. In the kitchen the servants were greatly alarmed by a rumbling noise and a shaking under the floor. Some of the vicar's neighbors say they heard a report; and houses with cellars under them, and higher, felt the shaking more. Some persons who were up stairs, thinking that it was some explosion, rushed down stairs and out of doors. The effects were also felt at Shillingford, two miles distant; and also at Combehead, one and a half miles distant. The porters at the station describe it as like a heavily-laden mineral-train passing. The only damage done at Bampton was that a piece of wall was thrown down.

— It is suggested by the Seismological society of Japan that the system of telegraph-stations around Tokio and Yokohama may be utilized in warning the inhabitants of either city of the approach of an earthquake. This might be accomplished by causing such a shock, felt at any of these stations, to complete an electric circuit which could be made to fire a gun almost instantaneously. The inhabitants would receive from two to six minutes' warning, which would give them sufficient time to extinguish their fires,

remove their most valuable goods, and reach open ground before the arrival of the shock.

— A recent issue of *La Nature* (Jan. 3, 1885), describing an earthquake which occurred in the valley of the Durance in south-eastern France at eleven P.M. on Nov. 27, 1884, notices and illustrates this curious phenomenon.

"The roof of a chalet at Sainte Catherine was suddenly transformed into a vibrating plate, and was broken in several equi-distant places. These injuries could not be attributed to the fall of bricks from the chimneys. The slates were dislodged, and not broken; and the exposed portions of the wood-work, far from being in the vertical line from the chimneys, were found at precisely equal distances from each other. Moreover, the outside chimneys have not lost a single brick, and yet the roof is as much injured in these two places as in the others."



CHALET AT ST. CATHERINE, SHOWING ROOF BROKEN BY EARTHQUAKE.

The chalet referred to is represented in the accompanying illustration as a brick building with sloping roof, divided by a central projecting gable, and surmounted by a row of six chimneys, each capped with a large flat stone. The end chimneys are uninjured; but the capstones of the four middle chimneys have been more or less moved from their places, and one has disappeared entirely, making a hole in the roof by its fall. Besides this hole, which is at the upper side, and close to the chimney from which the stone fell, there are upon the lower part of the roof five spots where the slates are removed, as if these had been the ventral segments of a stationary vibration set up in the roof; its normal period of vibration, when thus divided, happening to agree with the period of some of the vibrations caused by the earthquake.

— *Nature* states that fresh shocks of earthquake occurred on Jan. 27 and 28 in the hot-spring district of southern Styria. A severe and prolonged shock was felt at Valparaiso at four o'clock on the morning of the 27th; and on the 31st a shock destroyed eight Arab houses in Algiers: this last was also felt at Setif.

— The Rev. Mr. Doane writes from Ponape, Caroline Islands, in October, 1884, of the arrival, in large quantities, of pumice-drift ejected by Krakatoa a year before. It is a boon to the natives, who crush the pumice, and fertilize the arid coral sand of the low atolls with it.

— The telephone is to be introduced into the Kongo region by the International African association.

— Capt. Scopinich, of the Austrian brig Mater, reports having experienced terrific earthquake shocks on the 22d of December, 1884, in the vicinity of the Azores. The weather was very fine at the time, with a light easterly breeze.

— The committee on thought-transference, of the American society for psychical research, has issued a circular requesting the co-operation of all persons interested in investigating the subject; that is, in ascertaining whether "a vivid impression or a distinct idea in one mind can be communicated to another mind without the intervening help of the recognized organs of sensation." It is the intention of the committee to make experiments upon persons supposed to have the faculty of 'mind-reading.' The committee also desires to collect statistics as to experiments of uniform character, but made by a large number of observers, similar to those made by Charles Richet, and described in *Science* (vol. v. p. 132). Precise directions for making each series of experiments are appended to this circular. In entering on this inquiry, the committee wish to be understood as expressing no opinion, on one side or the other, in regard to the reality of the supposed thought-transference. They simply seek to institute a thorough and entirely unbiassed investigation of the class of phenomena known under the name of 'mind-reading,' in the hope of taking at least a distinct step towards the true explanation of those phenomena, whatever that explanation may be. All inquiries and communications should be addressed to the secretary, Mr. N. D. C. Hodges, 19 Brattle Street, Cambridge, Mass.

— In their report on underground circuits, the committee of examiners of the Philadelphia electrical exhibition call attention to the desirability, in the present tentative condition of our knowledge of underground wires, of all conduits built for such purpose being so constructed as to be easily adaptable to a number of systems. In regard to conducting electric currents underground, the committee records its opinion that there can be no doubt of the ultimate feasibility of the scheme.

— The first number of *Petermann's mittheilungen* for this year appears under the editorship of Dr. A. Supan, well known for his writings on matters of physical geography. The articles are chiefly concerned with explorations and general descriptions; but continued attention is promised to physical geography as well, and the current bibliography that closes the number includes mention and abstract of several papers of this character. Most of these abstracts are by Dr. Supan himself, while the monthly review of exploration is by Dr. Wichmann.

— The foundation of a chair of hygiene at the University of Berlin is an accomplished fact. Besides the professorship, a laboratory for hygienic research is to be instituted.

— The Italian explorer, Signor Franzoi, intends to undertake another six or seven years' expedition into central Africa.

Specimen of Engraving and Printing, by STRUTHERS, SERVOSS & Co., 32 & 34 Frankfort St., New York. Printed from Relief-plates—six impressions.

The Red line from Jerusalem North marks the route followed in the present journey. The line from Gaza shows the approach from the South in coming up from the Desert.

[From "Among the Holy Hills," by the Rev. H. M. Fields, D.D. By permission Messrs. Chas. Scribner's Sons, New York, Publishers.]