THE CALIFORNIA EARTHQUAKE AT UKIAH.

The earthquake which wrought such destruction in San Francisco and Santa Rosa, on April 18, was very severe in Ukiah, 160 kilometers (96 miles) northwest of San Francisco. Many chimneys were thrown down from two-story buildings but cottages escaped without injury. One new brick store building, just nearing completion, was so badly cracked and thrown out of plumb that it is necessary to tear it down.

At the Latitude Station no damage whatever was done although the shaking was the most severe ever experienced by the writer. Dishes rattled, milk was spilled from pans but little more than half full, and fowls and other domestic animals were very much perturbed. There were a series of shocks and reliable estimates of their duration vary from twenty seconds to one minute. The general direction of the wave seemed to be from southwest toward the northeast, but others report a different direction. The Ukiah Valley is surrounded by mountains of considerable altitude and it is probable that some of the shocks felt were from waves reflected from the mountains. Hence it is that the earthquake is generally spoken of as a 'twister.'

The observatory clock was not stopped but it lost six seconds during the disturbance, which is equivalent to being stopped for that length of time and then set to going again. The observatory roof is built in two sections which roll upon horizontal tracks, east and west, giving an opening for observation of about 1.8 meters. When closed the two parts are fastened together by means of a hook and eye such as are used on screen doors. The hook rests in a horizontal position and the bend of the hook in a meridian plane. The effect of the earthquake was to unfasten this hook and open the roof to a width of about twenty centimeters, my recollection being that the eastern half was moved about twice as far as the western. The pier upon which the zenith telescope rests is apparently not damaged but the telescope was thrown considerably out of adjustment. It was out about fifteen seconds of arc in azimuth and the vertical axis was out in both directions, but not much more than sometimes results from extreme changes in temperature.

The first series of shocks was followed by three lighter ones and the observed data for each are as follows:

Pacific Stand. Time 1906 April					Duration.	Direction.	Intensity.
18d	5h	13m	00s	A.M.	About 40s	S.W. to N.E.	Severe.
18	10	4	39	A.M.	" 10	S.W. to N.E.	Medium.
18	11	36	00	A.M.	" 30	S.W. to N.E.	Light.
20	12	30	53	A.M.			Very slight.

The times are correct within two or three seconds.

I was in the observatory at the time of the second series of shocks, at $10^h\,4^m$, and perceived the effect of the movement in the striding level (east and west), of the zenith telescope. The bubble oscillated over about two divisions of the level. The value of one division is 2″.2 and as the distance between the east and west leveling screws of the instrument is about 42 centimeters, the disturbance produced in the bubble was equivalent to the effect of raising and lowering one of the leveling screws by 0.0005 centimeter. This shock was felt very distinctly and it is probable that the north and south component of the motion was much greater than the east and west one.

The fourth shock was not felt at all. It was detected during the progress of latitude observations by a movement of the bubbles of the latitude levels. The oscillation (north and south) was about one half of one division, and the value of one division is 1.0.

Sidney D. Townley.
International Latitude Observatory,
Ukiah, California.

SCIENTIFIC BUILDINGS AND COLLECTIONS AT STANFORD UNIVERSITY.[1]

The scientific laboratories and collections at Stanford University were but slightly injured by the recent earthquake in California. The buildings containing the departments of physiology, botany, zoology and entomology are uninjured structurally, and the apparatus

[1] We print this note, although it reduplicates to a certain extent the information communicated to us last week by President Jordan.

and collections suffered almost no damage. The chemistry building lost small parts of two walls, and the loss to apparatus and supplies amounts to a few hundred dollars. The present geological and metallurgic laboratories are, with their contents, practically unhurt. The large new geological building, nearly completed, suffered serious injury. The building in which the departments of physics and psychology are housed lost a part of one wall, but the equipment is but slightly damaged. The laboratories and shops of the various engineering departments show some injuries, all of which, however, can be easily and quickly remedied. The really wrecked buildings are the famous church, great memorial arch, museum and the large new library and gymnasium buildings in course of erection. University work will begin again (it has been suspended for the rest of the present semester, about four weeks) on August 23, the regular date for the opening of the next college year.

VERNON L. KELLOGG.

THE UNIVERSITY OF CALIFORNIA AND THE CALIFORNIA ACADEMY OF SCIENCES.

THE University of California suffered by the loss of San Francisco investments, but the buildings and their contents at Berkeley suffered very little damage. Academic work, interrupted for the present by relief work, in which nearly all of the members of the faculty are engaged, will shortly be resumed. We understand also that the buildings of the affiliated colleges in San Francisco were not seriously injured. The Anthropological Museum is saved, and the building is undamaged, the loss to the collections is inconsiderable and altogether from earthquake. The most fragile pieces of value were efficiently protected by appliances designed against earthquake shocks. The university's Mark Hopkins Institute of Art in San Francisco was burned, but nearly all canvases were saved. The Bancroft library of books and manuscripts relating to the history of the Pacific coast, which recently came into the possession of the university, has been saved.

Among the direct losses by the fire which followed the earthquake in San Francisco were the building, library and natural history collections of the California Academy of Sciences. The building was materially injured by the earthquake, its staircase in particular suffering severely, but this did not prevent an effort to rescue some of the more precious material before the fire reached it. A small party of curators and members climbed to the laboratories and library on the upper floor and brought away the type specimens in botany, entomology and herpetology, together with some manuscripts and the archives.

SCIENTIFIC NOTES AND NEWS.

THE American Chemical Society will meet at Ithaca, N. Y., June 28–30. The following persons have been appointed as chairmen of the various sections:

Physical Chemistry, W. Lash Miller.
Inorganic Chemistry, L. M. Dennis.
Organic Chemistry, G. B. Frankforter.
Biological Chemistry, Waldemar Koch.
Agricultural Chemistry, E. B. Voorhees.
Industrial Chemistry, J. D. Pennock.

A MEETING of those interested in the organization of an American association, similar in scope to the Museums Association of Great Britain, will, as we have already reported, take place at the American Museum of Natural History, New York, on May 15, at 10:30 o'clock. A large number of men from various parts of the country have expressed their intention of being present, and at the conclusion of the business of organization, it is proposed to attend to the reading of papers upon various museum subjects. On Tuesday luncheon will be served at the American Museum, and on Wednesday sessions will be held and luncheon will be served at the Botanical Garden. It is suggested that those who are strangers in New York will find convenient quarters at reasonable rates at the Hotel Endicott, corner of Ninth Avenue and Eighty-first Street.

THE Rumford committee of the American Academy has recently made grants to the following persons in aid of the researches specified: