



## EARTHQUAKE IN UTAH.

Self Recording Apparatus—Dr. Talmage's Installation.

SINCE the announcement made in June last that an earthquake recorder had been installed at the University of Utah, institutions in this country and beyond the seas have been anxious to know the details of this all-important installation.

Dr. J. E. Talmage, who for 12 years prior to his recent withdrawal from the institution was professor of geology in the University of Utah, has repeatedly and persistently urged the necessity of establishing a seismographic apparatus in connection with the state university. During the last academic year he personally assumed the responsibility of ordering the installation. The following from a recent issue of Science explains both installation and operation:

It may be of interest to many to know that seismographic apparatus has recently been installed at the University of Utah. The university campus covers part of a shore terrace built by the Pleistocene water-body known as Lake Bonneville on the eastern outskirts of the region now occupied by Salt Lake City, and lying practically at the base of the Wasatch range. The Wasatch mountains are of immature age, and consequently are now rising. These facts are of importance inasmuch as the base of the main range is a short distance to the southeast, and of comparatively recent up-lifts of these sections of the mountain mass. At the Wasatch base directly across from the city, along the line of the bench-land junction with the mountain mass, there is little evidence of fault movement at all comparable as to recency with the fresh scarp north-

erly and southerly from the locality described. This fact and others of related significance have inspired the prediction that the next or at least a relatively early seismic uplift in this section of the Wasatch range will result in a break to the east from Salt Lake City, with accompanying destruction of earthquakes.

The foundation of this prediction of assumed calamity has been questioned by the writer. It is a fact that slight earth tremors occur at frequent intervals in the Salt Lake valley. These tremors originate differently, mainly as follows: (1) in irregular slip incident to the rise of the Wasatch mass, or more precisely, incident to the upward slip of some particular section of the range, since the mountain mass does not move as a whole; (2) in the slip incident to the readjustment of the monoclinal crust-blocks composing the basin ranges to the west. These conditions of crustal movement in this vicinity warrant the statement that seismographic records here obtained promise results of both interest and value.

The writer is pleased to report the installation of a pair of seismographic pendulums in Utah. The apparatus as a whole may be designated as the Omori-Bosch seismograph. It was imported from Bosch, Strasbourg.

Before deciding on the purchase of this type of apparatus, the writer inquired by correspondence and personal visits as to instruments for recording earth movements now in operation in this country. The results showed but few installations, and according to the reports, a considerable number of these were of doubtful efficiency.

The Omori-Bosch seismograph includes a weight of 100 kilograms suspended by a flexible wire and sup-

ported in part by a cone and socket attachment extending from an iron column four and a half feet high, said column being firmly anchored to a massive pillar rising from a deep foundation and isolated from floor and other surface contact. Attached to the weight is a skeleton cone of aluminum rods, which, with friction attachments, operates a fine recording pen or point. The tracing point rests on the surface of a paper-covered revolving drum. The weight is a skeleton cone of aluminum rods, which, with friction attachments, operates a fine recording pen or point. The tracing point rests on the surface of a paper-covered revolving drum. The weight is a skeleton cone of aluminum rods, which, with friction attachments, operates a fine recording pen or point. The tracing point rests on the surface of a paper-covered revolving drum.

A reliable contact clock is electrically connected with the recording mechanism, and a metronome point projecting from the armature of an electro-magnet makes its imprint upon the smoked paper at intervals of minutes or seconds. The record during a period free from earth tremors is a series of uniform intervals, with dots indicating time intervals, disturbances are shown by cross tracings, of wide amplitude and short duration when caused by superficial jarring of the instrument, but smaller as to amplitude and otherwise distinctly different if caused by an earth tremor reaching the pillar from below.

The equipment at the University of Utah comprises two instruments as described, these are set respectively on the north-south and east-west lines. One clock makes synchronous record of each of the two drums.

The sensitiveness of the apparatus is surprising. A blast from the human lungs impinging upon the side of the supporting pillar is definitely recorded. A heavy hammer blow on the end of the pillar, if delivered on the line of the main axis—north-south or east-west—according to the pillar that is struck—makes no tracing beyond that due to a slight upward jolt of the recording pen and the record of the point perhaps a little out of its normal position.

Each instrument is mounted on a pillar of pier or concrete, extending about 12 feet below the floor. The entire apparatus is enclosed within a tight case with glass sides.

On July 2 a powder explosion occur-

red about three miles from the university grounds. The explosive was fired while backed in freight cars awaiting removal to the magazine buildings near by. According to report 725 kegs of blasting powder and a ton of dynamite exploded. The cars were blown to bits, rails were broken and warped and the pieces were hurled to great distances; houses in the vicinity were wrecked; and the force of the explosion was felt throughout the city. The seismographs recorded the surface movement as a cross tracing, distinct but susceptible of measurement only with the aid of a lens.

## THE WORLD'S WHEAT CROP.

Situation in All the Producing Countries as Harvest Time Approaches.

In nearly all the important producing countries on the continent of Europe, the London Economist states, assuming the situation, "the winter wheat crop is more or less below average, France being the principal exception. Judging from the latest official report, the French crop, winter and spring divisions together, will be well up to the average of recent seasons, above it, and decidedly better than that of last year. In Russia the winter crop is much below the mark, while the spring one is reported to be about average. Rumania has one of the most deficient crops of wheat ever grown in that country. The Hungarian crop is officially estimated at less than 15,000,000 quarters of eight bushels, as compared with nearly 25,000,000 for last year, and in Austria there is also a considerable deficiency, though a smaller one than that of Hungary.

In Germany, the estimate is about 20 per cent below the average of recent years, and in Italy there is a smaller deficiency. The August report of the United States department of agriculture estimates the winter wheat crop at about 425,500,000 bushels, as compared with last year's 423,000,000; while the

statistical of the New York bureau exchange on the basis of the condition figures for spring wheat, puts the production at 225,000,000 bushels. These figures indicate a total crop of 650,500,000 bushels, a quantity which compares with last year's 650,000,000. The Canadian crop, except in coast provinces, is now exclusively a spring one, and the growing season in the 1907-1908 is generally as in the United States, with a tendency to be somewhat later, a state of affairs which augurs a good crop, though not a bumper one of the average for the last five years.

It is much too early to attempt prospects in Argentina and Australia in the present country a great increase in the area under wheat is reported, but early reports from that country have been proved by experience to be utterly untrustworthy. Sowing was very late in Australia. In India the crop harvested last spring, although somewhat below that of 1906, was 10 per cent above the average for the five years ending with 1905. A compilation recently published in the Corn Trade List, based upon official reports, makes the world's wheat crop of 1907 only 285,500,000 quarters, or 4,800,000 less than the average for the preceding four years. Any such deficiency as this is rendered all the more important in consequence of the progress of the crop in some of the countries of Europe in which it is being raised by large proportions of the people."—New York Post.

Aches and Pains.

You know by experience that the aches and pains of rheumatism are not permanent, but only temporarily relieved by external remedies. Then why not use an internal remedy—Rushmer's Rheumatism, which cures the acidity of the blood on which rheumatism depends and cures the disease?

This medicine has done more to the rheumatism than any other medicine in the world.

THANKSGIVING! Nothing to be thankful for? Cheer up! The price of butter is dropping. Election is over. Cobblers strutting their last strut in the Utah poultry yards are thin and fat. Cranberries are red. The Thanksgiving is to be resumed soon. House-raisers show a tendency to work a week. When you read about those 30 sailors being eaten by cannibals, is it possible you weren't thankful you weren't a sailor? Or a cannibal? or a turkey? The financial clouds are passing. Crops are heavy. There'll be fresh water at Logans next year. And the same fresh water. The railroads continue to kill hundreds in wrecks every month. Aren't you thankful you haven't enough money to travel? The grand jury became a reality at last. Aren't you thankful you are not a butcher? Christmas is coming. Aren't you thankful you never think of recent bills until after wards? Think of the red plaid ties your wife will give you! Think of the pleasure you are going to have when you turn then over to the bootblack in your favorite barbershop, for verily "it is more blessed to give than to receive." For all these and more are we to be thankful.

Speaking about Thanksgiving, though, do you remember the old-fashioned Thanksgiving? Do you remember how you passed up your summer vacation so the first would leave you off a week at the end of November? When the first day of your fall vacation came you packed your grips and buying a ticket to Poughkeepsie via the Houghton & Sloenslager, hurried to the old folks down on the farm. Then, the oldest boy, was at the station waiting for you with a cutter and pair of boys. As you sped over the snow slowly freezing to death, then told you all the news of the past year. You were assigned to the back bedroom upstairs. Towards 10 o'clock everybody turned in and the noise began to turn out. But you slept—how you slept! In bunched. (The bed broke down.) And the dinner on Thanksgiving day! Doesn't your heart yearn and ache when you think of it? (For descriptions of the home-coming dinner down on the farm see any magazine for November.) And such a beautiful attack of indigestion when you got back to town! Do you not remember how you cast a contemptuous glance at the big enamel bathtub in your hotel room, after three days of three ablutions per day in cold water out under the old pump? Yes, you do not. Do you not remember how annoying the opera you attended the second evening of your return to town seemed after the bucolic sounds of the country? Yes you do not, again. As you sit down to a sumptuous meal in the glittering diningroom full of guests in dress-suits and Hungarian music, don't you bring up the old home-coming meal and shed tears? Do you? Don't you? Search me.

"Mother is so exacting," gushed a certain young lady of this city. "Monday night I went to the Salt Lake theater. Tuesday evening to the Grand; Wednesday to the Orpheum; Thursday to the Lyric; Friday to a moving picture show; and what do you think? Mother actually asked me to stay home Saturday afternoon to help her sew. I gave in, like a self-denying little girl that I am, and missed a delightful treat. Aren't mothers inconsiderate sometimes?"

ON OSCULATION.  
A little kissing  
Now and then  
Will save the day  
For married men.  
—Birmingham Age-Herald  
Unless the little  
Kissing be  
Bestowed on an  
Affinity.  
—Indianapolis News.

The secret lies in  
Knowing this:  
"How, where, when and  
Whom to kiss."  
—Boston Globe.  
Go kiss the wife;  
Much wrong it cures,  
But, friend, be sure  
The wife is yours.  
—Denver Post.

For if you don't  
Woe to your head:  
Let's cut this here,  
All has been said.

THIS IS BAD NIOUX.  
There once was two husky young Sioux  
Who filled themselves up with bad  
Nioux.  
They met up with some Chinks  
And in less than three winks  
Had divested them quite of their  
Quioux.—Con.

THIS WAS NEITHER.  
Emmett Hare was in town Wednesday on pleasure and business and incidentally attended one of the midweek weddings.—Evanston News-Register.

RATHER AMBIGUOUS.  
The cemetery is being improved by the assistance of a half dozen "tourists," who were unable to pay their fines on the charge of vagrancy.—Rock Springs Miner.

REDUCING THE STAFF.  
For Sale—One dozen Rhode Island thoroughbred roosters. Inquire at this office.—Elko Free Press.

NOTHING NEW "COYNED."  
After a year's absence Bill Coyne came back to town. Bill hasn't sung any new songs as yet but he hasn't forgotten the old ones.—Round Mountain Nugget.

PETRIIFICATION.  
Mrs. Stoners is here from Lincoln, Neb., for a visit with her daughter, Mrs. J. N. Crocker.—Rock Springs Miner.

AND THEN WHAT?  
J. O. Morris of Sheridan, Wyo., has set up a shooting gallery on the vacant lot west of the Senate restaurant on Front street. He expects to remain.

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