BY the will of J. DeW. Sterry public bequests are made amounting to $103,000. These include $11,000 to Princeton University and $10,000 to the American Museum of Natural History.

THE New Hampshire Forestry Commission has recently received through a bequest of Miss Caroline A. Fox, of Hillsboro, New Hampshire, a trust fund of approximately $200,000, the income from which is to be devoted to forest research and demonstration at Hillsboro and elsewhere in New Hampshire. Research at Hillsboro will be centered on the Caroline A. Fox Reservation, which was donated to the state by Miss Fox. Dr. Henry I. Baldwin, formerly research forester for the Brown Company, Berlin, New Hampshire, has been appointed resident forester. Dr. Baldwin has been a member of the faculty of the Pennsylvania State College during the past year, and takes up his new work on August 1.

A RESOLUTION was recently passed by the Court of the University of London conveying cordial thanks to the Rockefeller Foundation for a further generous donation to University College of £4,000 for the reconstruction and equipment of additional laboratories for the department of physiology at the college, to accommodate an expansion of the work in biophysics.

BY action of the Board of Regents of the University of Texas, the old Engineering Building, vacated by the College of Engineering in favor of the new $400,000 structure which adjoins the power plant, has been officially named "The Journalism Building." It will house the department of journalism, the student publications and the university office of publicity in the autumn. The building was erected in 1904.

THE National Geographic Society has leased space on the fifty-fourth floor of the RCA Building in Rockefeller Center. Early next month it will move from 350 Madison Avenue to the new quarters, which will be approximately twice as large as the space now occupied.

THE Ohio Academy of Science assembled for the annual field excursion under the direction of Dr. Karl Ver Steeg, chairman of the Section of Geology, on May 27 and 28, at Millersburg, Ohio. The trip was devoted to a field study of the glacial features, stratigraphy and physiography of Holmes County. The area examined in the vicinity of Millersburg and Loudonville afforded an excellent opportunity to see the glacial boundaries of the Illinoian and Wisconsin ice-sheets. The problem of glacial stagnation in the valleys in Holmes County and drainage changes, resulting from glaciation, are of considerable interest. The first day the area west of Killbuck Creek, in the vicinity of Millersburg, was examined. Here the results of glacier stagnation, moraines, kame terraces, varved clays, outwash deposits, drainage changes, the contact between the Waverly and Pennsylvanian series and the Harrisburg erosion surface were studied. On the next day the region northwest of Millersburg and in the vicinity of Loudonville was inspected. The evidences of glacier stagnation in the broad valley in the vicinity of Loudonville were investigated. George W. White, professor of geology at the New Hampshire University, who has made an intensive study of the region for a number of years, was the guide. After dinner in the evening the party gathered for a discussion. About thirty-five members, mainly from the colleges and universities in the state, attended the excursion.

DISCUSSION

NOTES ON THE FALL OF COLUMNS DURING THE LONG BEACH EARTHQUAKE

THE use of overthrown columns for determining the position of seismic focus, developed by Robert Mallet in his study of the Neapolitan earthquake of 1857 and later used by Omori[1] and others, has been invoked by the writer in a study of the recent earthquake in Long Beach, California. It is interesting to compare the results obtained by this older method with those of the highly organized system of seismological stations maintained by the California Institute of Technology and the Carnegie Institution of Washington throughout southern California.

The earthquake occurred at approximately 5:55 P. M., Pacific Standard Time, on March 10, 1933, the greatest amount of damage being done in the cities of Long Beach and Compton, although other neighboring towns had many buildings destroyed, and a large part of southern California was distinctly shaken. The writer visited the damaged area shortly after the shock and at that time gathered the data here set forth. He wishes to acknowledge the assistance rendered by two of his students, Mr. Duncan A. McNaughton and Mr. Diamond Kimm.

The method of procedure was simple. Since it was desired to observe the direction of propagation of the earthquake waves as indicated by their effect on free-falling columns, work was confined to cemeteries. Fourteen cemeteries in the general vicinity were visited by the writer or his assistants, but in most of these either there were no monuments at all or none had been thrown down. In five, however, data were collected.

[1] C. Davison, "A Manual of Seismology," pp. 51–52, 119–121. Cambridge University Press, 1921.

Certain precautions were taken in order to keep down the possible error. Stones whose shapes might cause them to fall in some particular direction were disregarded, and those only used that were of square or round base. Furthermore, those columns whose bases were tilted to the extent of possibly giving direction to the fall were eliminated. The writer feels, therefore, that the results herein given are comparatively accurate.

The cemeteries in which the data were obtained are the following: (1) Sunnyside, on Willow Street between California and Orange Avenues, Long Beach; (2) Artesia, just to the northwest of the town of Artesia; (3) Old Downey, south of Downey; (4) Woodlawn, just south and west of Compton, and (5) Wilmington. In the last named there were but two monuments that might be included in the specified types and these fell at right angles to each other, thus vitiating any inferences that might be based on their direction of fall.

Observations on thirteen monuments in the Sunnyside Cemetery showed ten of them to have fallen within the fifteen degree angle between N 5 W–S 5 E and N 20 W–S 20 E. Of twenty-four columns in the Artesia Cemetery twelve were between N 60 W–S 60 E and N 85 W–S 85 E. Six of the seven stones in Old Downey Cemetery lay between N 85 W–S 85 E and S 63 W–N 63 E, and four of the six in Woodlawn fell either east or west. Plotting all the observations made on an accurate map of the region and projecting the lines in both directions, since it is obvious that the columns may have fallen either toward or away from the focus, the results shown in Fig. 1 are obtained.

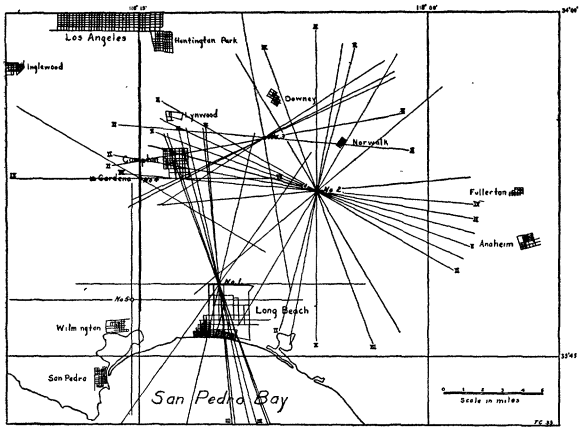

FIG. 1. Map showing direction of fall of tombstones in vicinity of Long Beach, California, March 10, 1933. No. 1, Sunnyside Cemetery; No. 2, Artesia Cemetery; No. 3, Old Downey Cemetery; No. 4, Woodlawn Cemetery; No. 5, Wilmington Cemetery. Roman numerals indicate number of monuments in same direction.

A marked convergence on the Compton area is at once apparent, with over 60 per cent. of the columns having fallen along lines radiating from Compton as a center. It was also noted by the writer in a reconnaissance examination that Compton was the most severely damaged in proportion to its size of any of the cities in the shaken zone. The inference, therefore, is that the epicenter of the earthquake was in and about the city of Compton.

The data from seismographs, however, indicate that the epicenter was on the sea floor a short distance off Newport Beach,[2] disagreeing entirely with the results of the writer. Yet there are inconsistencies with this conclusion other than that indicated by the overthrown columns. Balboa and Newport, built upon material not greatly different from that underlying Compton and Long Beach, and of more or less similar construction, were very much less severely damaged. Neither was there any semblance of a so-called tidal wave, which might have been expected with violent earthquake waves emerging on the sea floor, and this regardless of whether the movement along the fault was vertical or horizontal.

A possible explanation of the disagreement is the following. The first slip, of minor importance, may have occurred off Newport as indicated by the instrumental records. This slip in turn may have acted as a trigger to release accumulated stresses along the same or a near-by fault in the Compton region, the latter movement being much greater in magnitude than the former and causing the principal damage.

In view of the evidence offered, and the further corroboration by personal impressions of two distinct series of shocks, one following immediately upon the other, it is the opinion of the writer that the above explanation is a valid one and that the epicenter of the major shock was in or near Compton, California, at approximately 118 degrees, 13 minutes west longitude and 33 degrees, 54 minutes north latitude. The fault map of California, compiled by Bailey Willis and Harry O. Wood for the Seismological Society of America, shows a possible fault passing through this area approximately parallel with the Inglewood fault. It may have been movement on this fault, activated by an immediately preceding movement on the Inglewood fault off Newport Beach, that caused the damage in Compton and the surrounding area.

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THE VALUE OF AN ANIMAL BARRIER IN MALARIA CONTROL

MALARIOLOGISTS have for a number of years been debating the question of the value of an animal barrier

[2] Personal communication, Mr. H. O. Wood.