

## EARTHQUAKE OF JANUARY 28, 1931

By CHARLES F. RICHTER

On January 28, 1931, at 12:50 a.m., P.S.T., occurred an earthquake which was perceptible over a limited area in the southwestern section of the city of Los Angeles. The seismographic amplitudes were only a few millimeters at the Pasadena station, distant twenty-one kilometers. Field investigation showed that the stronger effects, probably nowhere exceeding IV on the Rossi-Forel scale, were confined to an area about one and one-half kilometers in radius, centering at latitude  $34^{\circ} 00' N.$ , longitude  $180^{\circ} 19' W.$  This point is near the intersection of Forty-eighth Street and Second Avenue, Los Angeles. The shock was perceptible in most directions only to a distance of about three kilometers from the center given; but to the south and southeast it was felt very slightly to a distance of about ten kilometers.

The instrumental records show a very sharp  $\bar{P}$ , followed by two sharp phases 3.5 and 4.0 seconds later. If these are assumed to be a surface shear wave and  $\bar{S}$ , respectively, the depth of origin is calculated as seven kilometers, a very reasonable figure, as this is obviously a shallow shock.

It is most unlikely that this shock, or any of several similar shocks which took place within a few weeks of it, can be associated with movement on the Inglewood fault. The origin indicated is in the region of several small shocks reported in 1917 by Homer Hamlin.<sup>1</sup> It is quite definitely east of the source of the Inglewood shock of 1920.

The point taken as epicenter lies on the prolongation of the abrupt north face of the Baldwin Hills. This face is generally considered to be an erosional feature; but it has been suspected that it indicates a fault, which would probably curve to the southeastward, in the direction of elongation of the felt area of this shock.

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<sup>1</sup> Homer Hamlin, "Miscellaneous Earthquakes in Southern and Eastern California," *Bulletin of the Seismological Society of America*, 7, 113, September, 1917.