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Charles Keyes

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## HORIZONTAL MOVEMENT IN OBLIQUE FAULTING OF INCLINED STRATA

CHARLES KEYES

In the White Basin of southern Nevada, where extensive borax deposits were discovered a few years ago, the depression is formed by a huge drop-fault block, in which the displacement is more than 1000 feet and there appears a curious set of oblique faults which meet the major side-fault at an angle of 45 degrees. The strata being inclined about 30 degrees renders the direction of movement conspicuous. This is horizontal.

These oblique faults do not seem to form straight lines but are slightly convergent. At first glance they appear to be expressions of relief from torsional stresses. But the tract under consideration is a part of the Muddy Mountains lately determined to be not a typical exemplification of Basin Range structure but a huge thrust-block. Mountain thrusts are commonly regarded as low-angled faults, the plane of rupture being nearly horizontal.

On a ground plat the faults under notice are disposed obliquely to the main fault bounding White Basin, which is seven miles removed from the line where the thrust reaches sky, in the steep face of the Muddy Mountains. While the movement of the minor faults is horizontal the plane of motion is vertical and at right angles to the strike of the thrust. It seems probable, therefore, that these minor faults are not to be attuned to the White Basin fault, but are in reality expressions of movement not heretofore recognized. If they are actually a necessary and ordinary result of thrusting the fact is important in fixing the date of the thrusting, for they cut the boraciferous beds which are doubtless Miocene in age.