

## THE JULY 9 AND 23, 1905, MONGOLIAN EARTHQUAKES: FURTHER COMMENTS

EMILE A. OKAL<sup>1</sup>

*Seismological Laboratory, California Institute of Technology, Pasadena, CA 91125 (U.S.A.)*

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I welcome Ilyin's [1] pertinent discussion of the geological features of the 1905 earthquakes, which I investigated on purely seismological grounds [2]. I would like, however, to discuss the apparent discrepancy on the subject of the focal mechanism of the July 9 event (event I [2]).

Comparison of the two events at the same stations, equipped with Milne low-gain seismometers, which remained on scale for event II, is usually compatible with similar focal mechanism, although a slightly inclined fault is certainly possible. This would not, anyway, have a significant effect on the seismic moments involved (see [2, table 3]). The extensive rupture (200 km) evident from the seismic investigation of event I clearly associates this earthquake with the Bolnai fault, in its *hypocentral* mechanism, whereas the *surface* breakage occurred only in an area somewhat to the north. Similar differences between hypocentral location, focal mechanism and surface faulting are commonly reported (e.g. [3]); a classic example involving large-scale strike-slip is the Alpine fault in New Zealand [4].

My attention was also recently drawn to various reports of the Mongolian earthquakes published around 1905–1907 by the Permanent Commission on Seismology of the Imperial Academy of Sciences. A first-

motion dilatational arrival (to SW) is reported by Voznesenskii at Irkustk [5] for event I. Although the corresponding seismograms are not shown and the ability of the Galitzin instrument to record P-wave first-motion information might be questionable, this direction of motion would be compatible with left-lateral strike-slip along the Bolnai fault. The map of isoseismals included in Voznesenskii's paper is also clearly compatible with an extended rupture along the Bolnai fault.

### References

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<sup>1</sup> Present address (as of August 1, 1978): Department of Geology and Geophysics, Yale University, Post Office Box 2161, New Haven, (CT) 06520, U.S.A.