

**James L. Penick, Jr.** *The New Madrid Earthquakes*. (Published previously as *The New Madrid Earthquakes of 1811–1812*, 1979.) xvi + 176 pp., illus., bibl., index. Columbia, Mo.: University of Missouri Press, 1981. \$7.95 (paper).

Between December 1811 and March 1812 the central Mississippi River Valley was subjected to repeated and often violent earthquakes. The greatest effects were felt in the riverfront town of New Madrid, Missouri, though strong shocks were noted over an area of almost one million square miles of eastern North America. In addition to destroying buildings, the earthquake leveled thousands of acres of forest, caused significant changes in the islands, banks, and bars of the Mississippi River, and altered drainage patterns of adjacent portions of Kentucky, Missouri, Arkansas, and Tennessee.

James Lal Penick has made a significant contribution to the history of the American Midwest and its natural phenomena through his exhaustive study of contemporary newspaper and periodical accounts of the New Madrid earthquakes and their effects. By comparing the hundreds of discrepant (and often wildly exaggerated) eyewitness descriptions, he has managed to sort out fact from fiction. The resultant definitive text is a fascinating and delightful, if primarily anecdotal, review of the unsettling winter of 1811–1812.

Penick justifiably treats the New Madrid shocks more as a social phenomenon than as a scientific event. The earthquakes had major demographic, theological, and psychological consequences, yet the shocks were little noted by the American scientific community and had no obvious impact on theories of earthquake origins.

Perhaps Penick's most important contribution is his sobering reminder that several million people now live near the epicenter of what was probably the strongest earthquake ever recorded in North America. Major earthquakes are rare in eastern North America, but the historical record is proof that they will occur again, perhaps with devastating consequences. *The New Madrid Earthquakes* is the best documentation available on the effects, both physical and social, of such an event.

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**Mary Sears; Daniel Merriman** (Editors). *Oceanography: The Past*. (Proceedings of the Third International Congress on the History of Oceanography, September 22–26, 1980.) xx + 812 pp., illus., index. New York/Heidelberg/Berlin: Springer, 1980. \$37.50.

The First International Congress of Oceanography was held in Monaco in the fall of 1966, and the proceedings were published early in 1968 and included substantial reviews of the comments and discussions following most contributed papers. However, at the second congress in Edinburgh in 1972 it was decided that the proceedings should be printed in advance and made available at the congress.

Unfortunately, the latter procedure was followed by the organizers of the third congress, held at Woods Hole, Massachusetts, in 1980. On arrival the participants received the voluminous book containing all the papers which were going to be read during the following week. Under such conditions the objectives of the meeting are considerably weakened and so are the proceedings. Several speakers were reluctant to read their already published paper and chose to talk on something else. Others complained that they were unable to include in their (already printed) report new views or discoveries made during the year following submission of their manuscript.

Although comments and discussions following congress papers are often poorly rendered in publication, if properly managed and recorded these contributions from the floor can add considerable value to the volume. This is particularly evident with historical subjects, as demonstrated by the many interesting and lively discussions in the Monaco proceedings.

The three congresses have celebrated anniversaries of events in the history of oceanography—in Monaco the centennial of the career of Prince Albert I, in Edinburgh the Challenger Expedition centenary, and in Woods Hole the fiftieth anniversary of the founding of its Oceanographic Institution. Accordingly, part of the contents of the proceedings focus on these events.

Six of a total of sixty-nine papers record the history of the institution and R/V *Atlantis* ("the tail that wagged the entire dog"—S. Schlee). Most of the papers are of a rather formal character, and they are almost completely devoid of contemporary photographs. Another seven or eight contribu-