hurricane, or rather on the same side of the microseismic barrier (see Fig. 1 and 3). Therefore, before this method of detecting hurricanes can be fully realized in the Caribbean it will be necessary to relocate some of the existing stations and to add several additional tripartite stations, as suggested in Figure 3.

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ABSTRACT OF DISCUSSION

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B. Gutenberg (California Institute of Technology, Pasadena, California)--As early as 1921 the writer has pointed out that the propagation of microseisms in Europe is clearly affected by boundaries of major geological units. For example, microseisms originating near Scandinavia are propagated far into Asia without much loss of energy, but their amplitudes decrease considerably in southerly directions where surface layers of different geologic age and with different elastic constants are passed by the waves. Similarly, microseisms are well propagated across large parts of the United States. On the other hand, records of microseisms produced by hurricanes in the Caribbean area and recorded there at the stations of the United States Navy Department show that the amplitudes of the microseisms decrease rapidly from one island to another. In the Pacific the station at Guam of the Microseismic Project of the United States Navy records microseisms from typhoons with their center far away in the area east of Japan. Japanese scientists have pointed out that typhoons in that area are accompanied by large microseisms at the stations along the east coast of Japan but only by insignificant microseisms on the west coast of Japan. There is some indication that typhoons moving westward south of Guam produce relatively irregular and small microseisms at Guam until they cross the Andesite Line near the Caroline Islands. Thus far, in all instances where the microseisms are propagated over long distances without much loss of energy, stations and cause are on the same geological unit. On the other hand, where amplitudes of the microseisms decrease rapidly with distance there is some evidence that they have crossed one or more discontinuities separating areas with different seismic velocities. Faults need not reduce appreciably the amplitudes of microseisms as long as velocities on both sides of the fault zone are approximately the same, and as long as the fault zone is narrow as compared with the wave length. Study of the decrease of amplitudes of microseisms based on more extended data can be expected to give more information on boundaries of distinct units of the Earth's crust.

PRE-HISTORY OF THE EARTH'S MAGNETIC FIELD

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Abstract

In order to determine the origin and nature of the Earth's magnetic field and to test the various hypotheses which have been advanced to explain the field, it is desirable to determine the history