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The above is a continuation of the series formerly published by the U.S. Bureau of Mines and edited by F. W. Lee, the last number of which was reported as No. 3324 of these lists. The resumption of publication of this valuable bibliography will be welcomed by many engaged in various applications of geophysics.

Section 10 (79-84) is devoted to listing patents of interest in geophysics. The titles and numbers of these are listed in this bibliography under the names of: Blau, Statham, Karcher, Merrill, Young, North, Prescott, Searcy, Rieber, Turner, and Weatherby. Descriptions of the patents will be found in the issue of *Geoph. Abs.* listed above.

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The above publication is the official organ of the Eastern Section of the Seismological Society of America. Mr. Bodle, the editor (U.S. Coast and Geodetic Survey, Washington), would be glad to receive notes of interest to seismologists which might find place in the limited space at his disposal.

The issue above listed reports the Saint Louis meeting of the Eastern Section, giving short abstracts of the papers there presented. For a brief outline of the meeting, with a list of the titles of the papers presented, see pp. 265-266 of *Bul. S.S.A.*, Vol. 27, No. 3, Berkeley, July, 1937.

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 - (2) "Boulder Dam Earthquakes Continue," *Ibid.*, p. 178.
 - (3) "Earth Shocks at Boulder Dam," No. 12, p. 484, Sept. 16.
 - (4) "Reservoir Seepage Traced to Earthquake," No. 13, p. 513, Sept. 23.
 - (5) "Seepage from Reservoir Traced to Earthquake," No. 14, p. 553, Sept. 30.
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- A new design, used in Vermont Ave. School at Los Angeles, develops maximum rigidity and meets California's seismic requirements for lateral resistance.
- For an editorial note on "New Seismic Code Available in California," see *Eng. N.-R., Vol. 119, No. 7, p. 283, New York, Aug. 12, 1937.*
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- "At 12^h50^m on November 25, 1930, Prof. M. Ishino, Dean of the Science Faculty of the Imperial University of Kyoto, received a telegram from an unknown young man, Mr. Hirokiti Mukuhira, of Eziri, near Miyazu, Kyoto Prefecture, reading: 'At about 4^h tomorrow morning there will occur an earthquake in Izu province.' The telegram was handed in for despatch at the Hasidate telegraph office at 12^h35^m of the same day. As predicted, an earthquake occurred the next morning at 4^h03^m in the north Izu district, killing 259 persons and demolishing 2,142 houses." So begins the account of the investigation of "Mukuhira's Arcs" which are described as an arc seen in the sky but differing from a rainbow, corona, or iridescent cloud. The experiences of others are recorded. The author concludes by saying: "In the present state of our knowledge of the phenomenon, however, practically any hypothesis could be invoked to explain it, so that the real explanation must be left to future research."

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In the same publication, Summer, 1937, pp. 28-31, the above author, in collaboration with Clarence P. Dunbar, publishes an article entitled, "Magnetic Prospecting."

J.B.M.

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The publication presents abstracts of papers, many of which are of interest to seismologists. These will be found listed in the present issue of the *Bibliography* by authors, as follows: Buwalda, Emery, Gutenberg, Heck, Lawson, Longwell, Miller, Murphy, Putnam, Rich, Richter, Rutherford, Sellards, Shepard, Slichter, Stetson.

3720. GEOLOGICAL SOCIETY OF AMERICA. The Geological Society of America has given grants to the following persons for carrying out the researches indicated:

- (1) BUWALDA, J. P., "Geophysical Investigation of the Depth of the Filling in the Yosemite Valley" \$800.
- (2) McLAUGHLIN, D. H., *et al.*, "Measurement of Compressibility and Other Properties of Certain Minerals and Rocks at High Pressures and High Temperatures" \$4,400.
- (3) MILLER, B. L., and EWING, Maurice, "Seismic Work on the Eastern Continental Shelf" \$2,450.
- (4) PIGGOTT, C. S., "Making and Testing a Device to Secure Core Samples of the Ocean Bottom" \$3,000.
- (5) SLICHTER, L. B., "Seismic Investigation of the Elastic Properties of the Upper Crust" \$3,000.
- (6) SHEPARD, F. P.,
 - (1) "Submarine Topography off the North Atlantic Coast and off the Pacific Coast" \$250.
 - (2) "Submarine Canyons off the Coast of California" \$300.
 - (3) "Compilation of a Map of Submarine Topography of the Continental Shelf and Slope off the California Coast" \$600.
 - (4) "Submarine Canyons off the Gulf Coast" \$500.

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3721. GHERZI, E., S.J., and GUTENBERG, B., "Discussion on Microseisms," *Bul. S.S.A.*, Vol. 27, No. 3, 259-260, Berkeley, July, 1937.

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Contains the following seismological chapter: "De aarde beeft" (The earth quakes), pp. 207-213. J.F.S.

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A short account of the work being done by the U.S. Coast and Geodetic Survey in California. We feel constrained to quote the latter part of the introductory paragraph, as follows: ". . . Since the beginning of the Christian Era, approximately 800 earthquakes strong enough to destroy cities and towns have occurred on land. History shows that an average of 30,000 persons have been killed each year during the past two centuries by these phenomena. More than 20,000 earthquakes occur each year; a widely recorded shock each fourteen hours; and a destructive earthquake each six and one-half days." With this as an introduction the author shows the steps now being taken in the strong-motion program of the Coast Survey to reduce this great loss of life and property by revising the building construction methods in seismic areas as guided by the research now in progress.

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Velocity *versus* displacement or acceleration—A general-purpose vibration-velocity meter—Setups for indicating and recording vibration velocity, wave-shape, and frequency. R.R.B.

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3726. GUTENBERG, B., and RICHTER, C. F., "Données relatives à l'étude des tremblements de terre à foyer profond," *U.G.G.I., Ass. Séis., Trav. Scien.*, Fasc. 15, 1st part, 3-70, 2 fig., 53 tab., 1 pl., Strasbourg, 1937.

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A single page of illustrations with brief descriptions, outlining the work done near Hugo, Col., in May, 1937.

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- (4) "Recent Earthquakes in Sussex," No. 3542, p. 498, Sept. 18.

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The above is a report of a lecture given by the author before the Vancouver Section of the Royal Astronomical Society of Canada. He is reported to have stated that the reason for various eminent authorities being unable to predict earthquakes is due to the need of revision of our "Physical Theories," especially Newton's gravitation and the Einstein theory. He gave proof that *he* had been able to predict earthquakes by presenting a table showing predictions he had made at a previous meeting and the earthquakes which had since happened. As indicated in a listing of a former presentation by the same author (No. 3360 *Bib. Seis.*) his predictions are very general both as to time ("within ten days before or after a stress peak on November 1") and place. No particular locations are mentioned. In presenting his confirmation he does not state where he obtains his list of earthquakes and comparison with a catalogue for the period is illuminating. See also No. 3383 of these lists.

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On pp. 83-84 of the same journal appear comments by H. Jung with regard to the above paper; and, on pp. 85-87, a reply by the author of the first paper.

3816. TURNER, Edwin E., "Apparatus for Measuring Depths," U.S. Patent No. 2,044,820, June 23, 1936.

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J.F.S.

3818. VEATCH, A. C., "Recent Advances in Marine Surveying: Work of the United States Coast and Geodetic Survey," *Geog. Rev.*, Vol. 27, No. 4, 625-629, 1 fig., New York, Oct., 1937.

3819. VISSER, S. W., "Het karakter vande seismische werking op seer groote diepte" (The Character of the Seismic Activity at very Great Depths), *Handelingen van het XXVI^e Nederlandsch natuur- en geneeskundig Congres, gehouden te Utrecht op 30, 31 Maart en 1 April, 1937*, Vol. 26, 345-348, Haarlem, 1937.

Read on April 1, 1937, at Utrecht. Contains communications as to the geographical distribution of the deep-focus earthquakes, on the geophysical conditions, and the equilibrium disturbances at the depth of some hundreds of kilometres. The author agrees with the conclusions of F. A. Vening Meinesz concerning the gravitation inquiries. See also No. 3470 (2) and No. 3670 of these lists. J.F.S.

3820. WALDEN, L., "Instrument Suspensions," *Jour. Sc. Inst.*, Vol. 14, No. 8, 257-268, 4 fig., bib., London, Aug., 1937.

3821. WANNER, E., "Zur Statistik der Erdbeben, II," *Ger. Bei.*, Bd. 50, Heft 2-4, 223-228, 2 fig., 3 tab., bib., Leipzig, 1937.

The first article on the above subject by the same author was reported as No. 3672 of these lists.

3822. WASHBURN, Harold W., "Experimental Determination of the Transient Characteristics of Seismograph Apparatus," *Geophysics*, Vol. 2, No. 3, 243-252, 4 fig., Houston, July, 1937.

3823. WEATHERBY, Benjamin B., "Surveying Underground Structures," U.S. Patent No. 2,049,236, July 28, 1936. W.A.

3824. WERKMEISTER, P., "Ein neues Instrument zur Bestimmung der Richtungswinkel von Kurventangenten," *Zeit. Inst.*, Jahr. 57, Heft 9, 379-380, 1 fig., Berlin, Sept., 1937.

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3827. ZANON, F. S., "Storia sismica della provincia di Venezia," *Osservatorio Geofiscio del Seminario Patriarcale di Venezia, Annuario, 1937*, Second Series, Anno 10, 53-89, 3 fig., bib., Verona, 1937.

LIST OF COLLABORATORS

The initials appended to various items throughout the *Bibliography* indicate, in each case, the contribution by the respective collaborator.

- | | |
|--|----------|
| Agamennone, G., Secretary, Società Sismologica Italiana, Via Cairoli, 101, Rome (32), Italy. | G.A. |
| Ayvazoglou, W., Geological Survey, U.S. Department of the Interior, Washington, D.C., U.S.A. | W.A. |
| Bodle, Ralph R., Editor, <i>Earthquake Notes</i> , United States Coast and Geodetic Survey, Washington, D.C., U.S.A. | R.R.B. |
| Bullen, K. E., Dominion Observatory, Wellington, N.Z. | K.E.B. |
| Byerly, P., Secretary, S.S.A., University of California, Berkeley, Cal., U.S.A. | P.B. |
| Annotated Bibliography of Economic Geology, Vol. 9, No. 2, Lancaster, July, 1937. | A.B.E.G. |
| Hayes, R. C., Dominion Observatory, Wellington, N.Z. | R.C.H. |
| Hodgson, John H., 721 Browder St., Dallas, Texas, U.S.A. | J.H.H. |
| Lünkenheimer, Federico, Observatorio Astronomico, La Plata, Argentine, S.A. | F.L. |
| Macelwane, James B., S.J., Director, Department of Geophysics, Saint Louis University, Saint Louis, Mo., U.S.A. | J.B.M. |
| Niethammer, Theodor, Astronomisch-meteorologische Anstalt Universität Basel, Switzerland. | T.N. |
| Stechschulte, V. C., Xavier University, Cincinnati, Ohio, U.S.A. | V.C.S. |
| Steenhuis, J. F., Kleverparkstraat 16, Haarlem, Holland. | J.F.S. |
| Tillotson, E., Aldercroft, The Homestead, Menston-in-Wharfedale, Yorkshire, England. | E.T. |
| Zaunick, R., Editor, <i>Mitteilungen zur Geschichte der Naturwissenschaften und der Technik</i> , Dresden A-16, Germany. | R.Z. |

SUBJECT INDEX FOR THE YEAR 1937

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