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BY

ERNEST A. HODGSON

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# Bibliography of Seismology

July to December, 1941

— ADAMS, L. H.,

- (1) "Citation on Presentation of the William Bowie Medal (third award) to Dr. John A. Fleming". See pp. 234-235 of the publication reported as No. 5169 of this list.
- (2) "Concluding Remarks Relative to the Thermal History of the Earth", *Ibid.*, 551-552.

5135. AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, "Geophysics, 1940", *Transactions, American Institute of Mining and Metallurgical Engineers*, Vol. 138, 489 pp., New York, 1940.

Contains the papers and discussions presented at the New York meetings of the Institute during the years 1935-1940 inclusive. The individual papers of interest to seismologists have been indexed in various issues of the *Bibliography*.

5136. AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, "Influence of Geophysics upon Geology Curricula". Papers presented at two joint meetings of the Mineral Industry Education Division, Geophysics Committee, The American Geophysical Union, and the Committee on College Curricula of the American Association of Petroleum Geologists, at the A.I.M.E. meeting in New York on Feb. 17-18, 1941. The papers were given by the following authors, being reported in this issue of the *Bibliography* under the respective names: Krumbein, Slotnick, Bucher, Miller, Straley, Macelwane, Landsberg.

The discussion appears in Technical Paper No. 1382, 5 pp., the last of eight pamphlets bound together and covering the entire symposium.

5137. ANDREOTTI, G., "Ricerche sulle precisione conseguibile nelle determinazioni delle profondità ipocentrali per terremoti di origine vicina", *Memorie della Accademia di Scienze Lettere ed Arti in Padova*, Vol. 56, 17 pp. in reprint, Padova, 1941 G.A.

5138. ANDREOTTI, G., "Tempeste nordiche e l'Osservatorio Geodinamico di Padova", *Memorie della Reale Accademia di Scienze, Lettere ed Arti in Padova*, Vol. 56, 10 pp. in reprint, bib., Padova, 1941. G.A.

— ARRINGDALE, R. L., DEVLIN, James J., S.J., and LANGGUTH, L. C., S.J., "Macroseismic Study of the New Hampshire Earthquakes of December, 1940" (abstract). See p. 405 of the publication reported as No. 5169 of this list.

— ATHY, Lawrence F., and PRESCOTT, Harold R., "Seismic Method of Logging Boreholes" (Patent). See No. 5227 of this list.

5139. AYVAZOGLOU, W.,

- (1) "Geophysical Abstracts 99", *U.S. Geological Survey Bulletins*, No. 915-D, 133-195 (October-December, 1939), Washington, 1940;
- (2) "Geophysical Abstracts 100", *Ibid.*, No. 925-A, 1-50 (January-March, 1940);
- (3) "Geophysical Abstracts 101", *Ibid.*, No. 925-B, 51-92 (April-June, 1940), 1941;
- (4) "Geophysical Abstracts 102", *Ibid.*, No. 925-C, 93-136 (July-September, 1940), 1941.

The price of each of the above is 10 cents from the Superintendent of Documents, Washington.

- BALSLEY, James R., "Deformation of Marble under Tension at High Pressure". See pp. 519-525 (9 fig.) of the publication reported as No. 5169 of this list.
- BANCROFT, Dennison, "An Electronic Interval-Timer for Laboratory Seismometry". See pp. 695-696 (1 fig., bib.) of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
- BANCROFT, Dennison, and BIRCH, Francis, "New Measurements of the Rigidity of Rocks at High Pressure" (abstract). See p. 695 of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
5140. BANTA, H. E., "A Refraction Theory Adaptable to Seismic Weathering Problems", *Geophysics*, Vol. 6, No. 3, 245-253, 4 fig., 1 tab., Menasha, July, 1941.
5141. BEARD, J. G., "Cleaning Small Magnet Gaps", *Journal, Scientific Instruments*, Vol. 18, No. 3, p. 50, London, March, 1941.
5142. BECKER, Ludwig, "Die Bewegung der Kontinente und die Köppen-Wegenersche Polkurve", *Zeitschrift für Geophysik*, Vol. 15, No. 7-8, 379-390, Braunschweig, 1939.
- An English translation, by W. A., of the author's abstract, appears as No. 5397 p. 31, of *Geophysical Abstracts 100*, reported as No. 5139 of this list.
- BENFIELD, A. E., "Thermal Measurements and Their Bearing on Crustal Problems". See pp. 155-159 (2 fig., 2 tab., bib.) of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
- Discussion of the above paper, by A. C. Lane, T. S. Lovering, L. H. Adams, F. Birch, A. E. Benfield, and H. Arctowski, appears on pp. 168-170 of the above publication. Further discussion, by B. Gutenberg, appears on p. 176.
5143. BENTZ, A., and CLOSS, H., "Erdöl und geophysikalische Reichsaufnahme in Grossdeutschland", *Öl und Kohle*, Vol. 35, No. 41, 731-739, Berlin, 1939.
- A brief review, signed W. A., appears as No. 5545, p. 76, of *Geophysical Abstracts 101*, reported as No. 5139 of this list.
5144. BIGNELL, L. G. E., "Sound Waves used to take Potential", *Oil and Gas Journal*, Vol. 37, No. 16, 49-50, Tulsa, 1938.
- A review, signed D. W., appears as No. 5487, p. 61, of *Geophysical Abstracts 101*, reported as No. 5139 of this list.
5145. BILLINGS, M. H., *et al.*, "Geophysical Interpretation", *American Association of Petroleum Geologists Bulletin*, Vol. 24, No. 2, 372-373, Tulsa, Feb., 1940.
- Stresses value of reflection seismograph. See abstract by E. R. L. as No. 915, p. 117, of the bibliography reported as No. 5256 of this list.
- A brief review, signed D. W., appears on page 229 of *Mines Magazine*, Vol. 31, No. 5, Golden, May, 1941.
5146. BIOT, M. A., "A Mechanical Analyzer for the Prediction of Earthquake Stresses", *Bulletin, Seismological Society of America*, Vol. 31, No. 2, 151-171, 12 fig., 3 tab., bib., Berkeley, April, 1941.

- BIRCH, Francis, "The Problem of Identifying the Crustal Layers". See pp. 552-556 (3 fig.) of the publication reported as No. 5169 of this list.
- BIRCH, Francis, and BANCROFT, Dennison, "New Measurements of the Rigidity of Rocks at High Pressure" (abstract). See p. 695 of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
- BIRKENHAUER, Henry F., S.J., "A New Method for Determining the Epicenter of a Near Earthquake" (abstract). See pp. 240-241 of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
- BIRKENHAUER, Henry F., S.J., and WALTER, Edward J., "Travel Times of Near Earthquakes in East-central North America" (abstract). See p. 406 of the publication reported as No. 5169 of this list.
5147. BLAKE, Archie, "On the Estimation of Focal Depth from Macroseismic Data", *Bulletin, Seismological Society of America*, Vol. 31, No. 3, 225-231, 3 tab., bib., Berkeley, July, 1941.
- BLAKE, Archie,
- (1) "The Possibility of Seismic Movement of the Rotation of the Earth's Core". See pp. 387-392 (2 fig., 1 tab., bib.) of the publication reported as No. 5169 of this list.
  - (2) "Progress-Report: Periodicity and Time Series" (abstract), *Ibid.*, 407-408.
- BLAU, Ludwig W., MOUNCE, W. D., and RUST, W. M., "Feedover Device" (Patent), U.S. No. 2,180,949, Nov. 21, 1939, reported as No. 5565, p. 81, of *Geophysical Abstracts 101*. See No. 5139 of this list.
- BODLE, R. R., "Some Points of Geophysical Interest in the Mass-Analysis of Teleseismic Records". See pp. 232-234 (1 fig., 1 tab.) of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
- BODLE, Ralph R., "Progress-Report: Seismological Activities of the United States Coast and Geodetic Survey, April 1, 1940, to March 31, 1941". See pp. 393-394 of the publication reported as No. 5169 of this list.
- BOIS, Ch., "Tremblements de terre en Afrique du Nord,-Tunisie". See p. 101 *seq.* of the publication listed as No. 5238 in this issue.
5148. BORN, W. T., "Geophysical Applications in the Production of Oil", *Oil Weekly*, Vol. 97, No. 2, p. 76, Houston, April 8, 1940.
- A brief abstract appears as No. 918, p. 118, of the *Bibliography* reported as No. 5256 of this list.
5149. BORN, W. T., "The Attenuation Constant of Earth Materials", *Geophysics*, Vol. 6, No. 2, 132-148, 7 fig., bib., Houston, April, 1941.
5150. BORN, W. T., "The Future of Geophysics", *Geophysics*, Vol. 6, No. 3, 213-220, Menasha, July, 1941.

5151. BORN, W. T., and KENDALL, J. M., "Application of the Fourier Integral to Some Geophysical Instrument Problems", *Geophysics*, Vol. 6, No. 2, 105-115, 6 fig., bib., Houston, April, 1941.
- BOWIE, William, and McNISH, A. G., "Appendix F—Report of Special Planning and Project Committee". See pp. 738-739 of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
5152. BRADFORD, Donald C., "The Seismological Station of the University of Pittsburgh", *Bulletin, Seismological Society of America*, Vol. 31, No. 2, 101-106, 3 fig., Berkeley, April, 1941.
5153. BRIDGMAN, P. W., "Explorations toward the Limit of Utilizable Pressures", *Journal of Applied Physics*, Vol. 12, No. 6, 461-469, 7 fig., bib., Lancaster, June, 1941.
- BROOKS, Harvey, "Cyclic Convection Currents". See pp. 548-551 (3 fig., bib.) of the publication reported as No. 5169 of this list.
- BRUZON, E., "Tremblements de terre en Indochine". See p. 105 of the publication listed as No. 5238 of this list.
- BUCHER, Walter H., "The Mountain-building Cycle". See pp. 163-166 (2 fig.) of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
- Discussion of the above paper, by W. T. Thom, Jr., H. H. Hess, and John L. Rich, appears on pp. 172-176 of the above publication.
- BUCHER, Walter H., "The Nature of Geological Inquiry and the Training Required for It," Technical Paper No. 1377, 6 pp. See No. 5136 of this list.
5154. BULLARD, E. C., and GASKELL, T. F., "Submarine Seismic Investigations", *Proceedings, Royal Society, Ser. A*, No. 971, Vol. 177, 476-499, 14 fig., 4 tab., bib., London, March 18, 1941.
5155. BUNGERS, R., "Die Überlagerung zweier Wellen verschiedener Herkunftsrichtung", *Zeitschrift für Geophysik*, Vol. 15, No. 5-6, 321-332, Braunschweig, 1939.
- A brief review, signed W. A., appears as No. 5331, p. 11, of *Geophysical Abstracts 100*, reported as No. 5139 of this list.
5156. BYERLY, Perry, "Minutes of the Meeting of the Seismological Society of America at Stanford University, California, April 19, 1941", *Bulletin, Seismological Society of America*, Vol. 31, No. 3, p. 260, Berkeley, July, 1941.
- BYERLY, Perry, "University of California Seismographic Station for Year Ending April 30, 1940". See pp. 243-244 of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
5157. CAGNIARD, Louis, "Réflexion et réfraction des ondes séismiques progressives". Gauthier-Villars, 250 pp., illus., tab. Price 120 francs, Paris, 1939.
- A lengthy review, signed E. E. (*Jour. Frank. Inst.*), appears as No. 5700, pp. 123-124, of the bibliography reported as No. 5139 of this list.

5158. CAMPBELL, F. F., "Deep Correlation Reflections near Hoskins Mound Salt Dome", *Geophysics*, Vol. 6, No. 3, 259-263, 3 fig., bib., Houston, July, 1941.
- CLARK, Harry, "The Effects of Simple Compression and Wetting on the Thermal Conductivity of Rocks". See pp. 543-544 of the publication reported as No. 5169 of this list.
- CLOSS, H., and BENTZ, A., "Erdöl und geophysikalische Reichsaufnahme in Grossdeutschland". See No. 5143 of this list.
- CLOUD, Raymond T., "Seismic Surveying System" (Patent). See No. 5227 of this list.
5159. COLORADO SCHOOL OF MINES. The following reprints have been received from the Colorado School of Mines and issued in the Series of *Publications of the Department of Geophysics*:
- No. 92, HEILAND, C. A., "Geophysical Methods for the Exploration and Production Division". Reprinted from *International Oil*, July, 1940, 43-49, 5 illus.
- No. 97, ——— "Mining Geophysics", 1 sheet.
- No. 98, HEILAND, C. A., *et al.*, "Geophysical Exploration at the Colorado School of Mines", *Colorado School of Mines Quarterly*, Vol. 36, Supplement D, 20 pp., 18 illus., Golden, April, 1941. C.A.H.
5160. DALMASSO, Fernando, "Sur terremoto Palermitano del 15 Gennaio 1940", *Geofisica Pura e Applicata*, Vol. 2, No. 1, 42-55, Messina, 1940.
- A brief abstract by the author, translated by W. A., appears as No. 5625, p. 101, of the bibliography reported as No. 5139 of this list.
- DELANEY, John P., "Variation of Elastic Constants with Moisture in Soapstone". See pp. 696-698 (2 fig., 1 tab.) of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
5161. DEMENITSKAIA, R. M., "Prospects of Seismic Survey by the Method of Refracted Waves in the Region of Ust-Eniseisk Port" (in Russian), *Problemi Arktiki*, No. 5, 81-92, Leningrad, 1939.
- A brief review, signed W. A., appears as No. 5335, p. 12, of *Geophysical Abstracts 100*, reported as No. 5139 of this list.
5162. DEMETRESCU, G., and PETRESCU, G.,
- (1) "Sur les phénomènes lumineux qui ont accompagné le tremblement de terre de Roumanie du 10 novembre 1940", *Académie Roumaine, Bulletin de la Section Scientifique*, Tome 23, No. 6, 5 pp., 1 chart, Jan., 1941.
- (2) "La carte macroséismique du tremblement de terre du 22 octobre 1940", mimeographed report from Observatoire de Bucarest, 1 sheet, 1 map, April, 1941.
- DEMOREST, Max, "Ice Deformation in the Flow of Glaciers" (abstract). See p. 525 of the publication reported as No. 5169 of this list.

- DEVLIN, James J., S.J., LANGGUTH, L. C., S.J., and ARRINGDALE, R. L., "Macroseismic Study of the New Hampshire Earthquakes of December, 1940" (abstract). See p. 405 of the publication reported as No. 5169 of this list.
5163. DOHERTY, J. W., "Seismic Exploration for Oil", *Miner*, Vol. 12, No. 8, 40-43, Vancouver, 1939.
- A brief abstract, signed W. A., appears as No. 5191, p. 142, of *Geophysical Abstracts* 99, reported as No. 5139 of this list.
- DONALDSON, Paul, and MONRO, John, "Geophysics at Harvard". See No. 5211 of this list.
- DOXSEE, William W., "Progress-Report: Canadian Seismological Stations". See pp. 371-372 of the publication reported as No. 5169 of this list.
- ELLIS, L. G.,
- (1) "Method for Analysis of Seismographic Records" (Patent), U.S. No. 2,243,729, May 27, 1941;
  - (2) "Apparatus for Analysis of Seismographic Records" (Patent), U.S. No. 2,243,730, May, 27, 1941. See No. 5225 of this issue.
5164. ENGINEERING NEWS-RECORD, "Small Quake Damages Santa Barbara, Calif.", *Engineering News-Record*, Vol. 127, No. 2A, p. 6, 1 fig., New York, July 10, 1941.
5165. ENGINEERING NEWS-RECORD. Short notes of interest to seismologists have appeared in recent issues of Vol. 127 of the above periodical (New York, 1941) as follows:—
- (1) "Bombs and Earthquakes", No. 15, p. 61, Oct. 9;
  - (2) "Earthquakes and Water Systems", *Ibid.*, p. 78.
- EWING, Maurice, "Appendix C—Report of Special Committee on Geophysical and Geological Study of Oceanic Basins". See p. 733 of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
5166. EXPLOSIVES ENGINEER, "Englehardt August Eckhardt,—A Biography", *Explosives Engineer*, Vol. 18, No. 4, 101-102, Wilmington, April, 1940.
- A brief review, signed D. W., appears on page 229 of *Mines Magazine*, Vol. 31, No. 5, Golden, May, 1941.
- The subject of the biography, Dr. Eckhardt, is the current President of the Society of Exploration Geophysicists. He is one of those who pioneered in the development of exploration geophysics.
5167. FEDOTOV, P. F., "Prospecting at Shallow Depths by Seismic Methods" (in Russian), Materials of the Central Geodetic and Prospecting Institute, *Geophysic*, No. 8, 39-62, Leningrad, 1940.
- The author's abstract, in English, appears as No. 5627, p. 101, of the bibliography reported as No. 5139 of this list.

- FIELD, R. M., "Geological Seismography". See pp. 241-242 of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
- FIELD, R. M., "Geophysics and World Affairs". See pp. 225-234 (1 fig., bib.) of the publication reported as No. 5169 of this list.
5168. FLEMING, John A., *et al.*, "*Transactions, American Geophysical Union, 1940*", Part II, 146-779 pp., num. fig., tab., maps, index, etc., Washington, July, 1940. J.A.F.

The above section of the *Transactions* presents the reports and papers of the General Assembly and of the several sections of the Union. Papers of particular interest to seismologists are indexed in this list by the names of authors, as follows: Macelwane, Benfield, Griggs, Bucher, Pekeris, Landsberg, Linehan, Neumann, Bodle, Sohon, McComb and Nelson, Heck, Birkenhauer, Walter, Field, Woollard, Birch, Bancroft, Delaney, Goranson, Washburne.

Progress reports were tabled as follows: Macelwane, J. B., S.J., for the Jesuit Seismological Association; Perry Byerly, for the University of California Seismograph Station; L. C. Langguth, for the Northeastern Seismological Association; Frank Neumann, for the U.S. Coast and Geodetic Association.

Of a series of resolutions adopted, three are of particular interest to seismologists: Resolution on Repositories for Geophysical Records; Resolution on Seismographic Stations in the North Atlantic; Resolution on Seaward Extension of Submarine Valleys. With regard to the first it is interesting to note (p. 732) that Saint Louis University has been designated as a central repository for fundamental geophysical data which may be released by petroleum companies and geophysical organizations.

Among the reports of special committees may be mentioned that by W. T. Thom, Jr., for the Special Committee on Geophysical and Geological Study of Continents; and that by Frank Neumann for the Minutes of the Annual Meeting, 1940, of the Section of Seismology.

5169. FLEMING, John A., *et al.*, "*Transactions, American Geophysical Union, 1941*", Part II, Twenty-second Annual Meeting, April 30 to May 3, 1941, Reports and Papers, General Assemblies and Sections of Geodesy, Seismology, Meteorology, Terrestrial Magnetism and Electricity, Oceanography, Volcanology, and Tectonophysics, 218-583, Washington, Aug., 1941.

Titles of papers and abstracts of particular interest to seismologists are listed in this issue of the *Bibliography* under the names of the various authors as follows: Field, Adams, Macelwane, Heck; Doxsee; Macelwane and Sprengnether, Jr.; McComb; LaRocque, Jr.; Linehan, Blake; Pekeris, Bodle; Hodgson; Neumann; Lynch, J.; Linehan and Leet; Perry; Devlin, Langguth and Arringdale; Stechschulte; Walter and Birkenhauer; Wilson; Lynch, W. A.; Balsley; Demorest, Griggs, Clark; Slichter; Brooks; Birch; Gutenberg.

- FLOYD, Francis M., "Seismic Surveying" (Patent). See No. 5227 of this list.
- FLUDE, J. W., "Casing for Bore Holes" (Patent—seismic prospecting). See No. 5224 of this list.
5170. FRIAUF, James B., "Nomograms for the Solution of Spherical Triangles," *Journal, Franklin Institute*, Vol. 232, No. 2, 151-174, 7 figs., bib., Philadelphia, Aug., 1941.



## 5171. GAMBURTSEV, G. A.,

(1) "On the Possibility of Separation of Reflected Transversal Waves in Seismic Prospecting" (in Russian), *Académie des Sciences URSS, Bulletins Géographiques et Géophysiques*, No. 2, 155-173, Moscow, 1939;

(2) "On the Theory of Electromagnetic Damping in Induction Seismographs" (in Russian), *Ibid.*, No. 1, 31-34.

Brief reviews of the above, signed W. A., and bearing Nos. 5337 and 5338, respectively, appear on p. 13 of *Geophysical Abstracts 100*, reported as No. 5139 of this list.

— GARDNER, L. W., "Seismograph Prospecting" (Patent). See No. 5224 of this list.

— GASKELL, T. F., and BULLARD, E. C., "Submarine Seismic Investigations". See No. 5154 of this list.

— GENAUX, L., "Agitation microséismique au Parc Saint-Maur". See p. 88 *seq.* of the publication listed as No. 5238 in this issue.

5172. GEOLOGISCHE RUNDSCHAU, "Atlantisheft", *Geologische Rundschau*, Vol. 30, Heft 1-4, 400 pp., figs., 6 pl., Stuttgart, Ferdinand Enke Verlag, 1939.

Contains papers bearing on continental drift theory. A complete list of the titles of these papers (44 in all) is given in No. 5415, p. 37, of *Geophysical Abstracts 100*, reported as No. 5139 of this list.

— GORANSON, Roy W., "Fracture and Flow in Stressed Solids". See pp. 698-700 (1 fig.) of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.

— GREEN, William Gladstone, "Method for Seismic Prospecting (Patent). See No. 5227 of this list.

5173. GREENWALD, H. P., HOWARTH, H. C., and HARTMANN, Irving, "Experiments on Strength of Small Pillars of Coal in the Pittsburgh Bed", *U.S. Bureau of Mines, Reports of Investigations*, No. 3575, 6 pp., 3 diag., Washington, June, 1941.

— GRIGGS, David, "Deformation of Rocks in the Laboratory". See pp. 159-162 (1 fig.) of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.

Discussion of the above paper, by R. W. Goranson, and M. King Hubbert, appears on pp. 170-172 of the above publication. Further discussion, by B. Gutenberg, appears on pp. 176-177.

— GRIGGS, David, "An Experimental Approach to Dynamic Metamorphism". See pp. 526-528 (2 tab.) of the publication reported as No. 5169 of this list.

5174. GUTENBERG, B., "Seismology", Chapter in *Geology, 1888-1938, Fiftieth Anniversary Volume*, Geological Society of America, 439-470, bib., New York, 1941. B.G.

— GUTENBERG, B., "Tectonic Processes Now in Action". See pp. 556-558 (bib.) of the publication reported as No. 5169 of this list.

5175. GUTENBERG, B., and RICHTER, C. F., "Seismicity of the Earth", *Geological Society of America Special Papers*, No. 34, 131 pp., 17 fig., 22 tab., bib., New York, Aug. 30, 1941. B.G.

## 5176. HAGIWARA, Takahiro,

- (1) "Observation of Changes in the Inclination of the Earth's Surface at Mt. Tukuba. II", *Bulletin, Earthquake Research Institute*, Vol. 19, Part 2, 218-227, 3 fig., bib., Tokyo, June, 1941;
- (2) "The Earthquakes that accompanied the Eruption of Miyake-sima, June 12, 1940", *Ibid.*, 325-330, 5 fig., bib.

— HARTMANN, IRVING, GREENWALD, H. P., and HOWARTH, H. C., "Experiments on Strength of Small Pillars of Coal in the Pittsburgh Bed". See No. 5173 of this list.

— HASAYA, Y., and HONDA, H., "On the ScS Waves and the Rigidity of the Earth's Core" (second paper). See No. 5183 of this list.

5177. HAYES, R. C., "Measurement of Earthquake Intensity", *Dominion Observatory (N.Z.) Bulletins*, No. S-61. Reprinted from the *New Zealand Journal of Science and Technology*, Vol. 22, No. 4B, pp. 202B-204B, 1 fig., bib., Wellington, 1941. R.C.H.

5178. HAYES, R. C., "Earthquake Origins in the New Zealand Region", *Dominion Observatory (N.Z.) Bulletins*, No. S-62. Reprinted from *New Zealand Journal of Science and Technology*, Vol. 22, No. 5B, pp. 225B-230B, 3 fig., bib., Wellington, 1941. R.C.H.

5179. HAYES, R. C., and THOMPSON, R. D., "Ground Tilt at Wellington, New Zealand", *Dominion Observatory (N.Z.) Bulletins*, No. S-60. Reprinted from the *New Zealand Journal of Science and Technology*, Vol. 22, No. 3B, pp. 166B-182B, 9 figs., bib., Wellington, 1940. R.C.H.

5180. HECK, N. H., "Memorial to William Bowie", *Proceedings, Geological Society of America*, 1940, 163-166, portrait, bib., New York, June, 1941. N.H.H.

— HECK, N. H. "Some Seismic Contributions to Knowledge of Earth's Crust". See pp. 237-240 (1 fig., 1 tab.) of *Transactions, American Geophysical Union*, 1940, reported as No. 5168 of this list.

— HECK, N. H., "The International Situation as It Concerns Seismology". See pp. 370-371 of the publication reported as No. 5169 of this list.

— HÉE, Mme. A., "Tremblements de terre en Afrique du Nord,-Algérie", and "Note sur le tremblement de terre du 10 février 1937 en Algérie". See p. 101 and 106 *seq.*, respectively, of the publication listed as No. 5238 in this issue.

— HEILAND, C. A., "Geophysical Methods for the Exploration and Production Division", "Mining Geophysics", and "Geophysical Exploration at the Colorado School of Mines". See No. 5159 of this list.

5181. HEINRICH, ROSS R., "A Contribution to the Seismic History of Missouri", *Bulletin, Seismological Society of America*, Vol. 31, No. 3, 187-224, 4 fig., 5 tab., bib., Berkeley, July, 1941.

5182. HODGSON, Ernest A., "The Interior of the Earth Viewed in Its Relation to Earthquake Causes: The Viewpoint of Seismology", *Journal, Royal Astronomical Society of Canada*, Vol. 35, No. 8, 321-328, Toronto, October, 1941.

A contribution to the Symposium on "The Interior of the Earth Viewed in Its Relation to Earthquake Causes", held on the occasion of the Centenary Celebration of Fordham University, New York City, September 15-17, 1941.

- HODGSON, Ernest A., "Rock Burst Research at Lake Shore Mines, Kirkland Lake, Ontario". See pp. 397-399 of the publication reported as No. 5169 of this list.

5183. HONDA, H., and HASAYA, Y., "On the *ScS* Waves and the Rigidity of the Earth's Core" (second paper), *Geophysical Magazine*, Vol. 13, No. 3-4, 219-230, 9 fig., 5 tab., bib., Tokyo, Nov., 1940.

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- (2) "Method and Means for Recording Seismic Waves" (Patent), U.S. No. 2,161,764, June 6, 1939, reported as No. 5276, p. 169, of same publication;
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- (4) "Seismograph Blasting Cap" (Patent), U.S. No. 2,189,741, Feb. 6, 1940, reported as No. 5574, p. 83, of same publication;
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5214. NAKAMURA, S. T., "On the Period and Damping of Seismometers", *Science Reports, Tohoku Imperial University*, First Series, Vol. 29, No. 4, 542-561, Sendai, May, 1941.

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- (2) "Submarine Canyons", *Ibid.*, p. 151;
- (3) "Earthquake in Cyprus", and "Other Recent Earthquakes", No. 3719, p. 174, Feb. 8;
- (4) "The Deepest Boring", *Ibid.*, p. 180;
- (5) "Death Notice of Father G. Alfani", No. 3720, p. 201, Feb. 15;
- (6) "Deep Focus Earthquake of the South-west Pacific", *Ibid.*, p. 213;
- (7) "Gravity Anomalies and the Earth's Figure", No. 3722, 273-274, March 1;
- (8) "Earthquake in Greece", No. 3723, p. 292, March 8;
- (9) "Thermal Conductivity of Rocks", *Ibid.*, p. 301;
- (10) "Election of Dr. E. C. Bullard to Royal Society", No. 3726, p. 383, March 29;
- (11) "Recent Earthquakes Recorded at Kew", and "Earthquake near New Guinea", No. 3727, p. 414, April 5;
- (12) "Data of Seismology", and "Earthquakes near America", No. 3728, p. 450, April 12;
- (13) "Earthquake in Mexico", No. 3730, p. 507, April 26;
- (14) "Recent Earthquakes Recorded at Kew", *Ibid.*, p. 508;
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- (16) "South Atlantic Earthquake of August 28, 1933", No. 3732, p. 578, May 10;
- (17) "Earthquake in Manchuria", No. 3733, p. 606, May 17;
- (18) "Earthquake in Atlantic Ocean", No. 3734, p. 639, May 24;
- (19) "A Plutonic Phase in Seismic Prospecting", *Ibid.*, p. 645;
- (20) "Earthquakes in Spain", No. 3735, p. 673, May 31;
- (21) "Crustal Structure of New Zealand", *Ibid.*, 685-686;
- (22) "Earthquakes in Turkey", No. 3736, p. 708, June 7;
- (23) "North Pacific Earthquake of November 10, 1938", *Ibid.*, p. 713;
- (24) "Seismological Data from Australia", No. 3737, p. 743, June 14;
- (25) "The Accra Earthquake of June 22, 1939", *Ibid.*, 751-752;
- (26) "Velocities of Earthquake Waves", No. 3738, 783-784, June 21;
- (27) "Earthquake in Baja, California", and "Earthquakes Registered at Kew", No. 3739, p. 804, June 28.

5217. NATURE. Brief items of interest to seismologists have appeared in recent issues of Vol. 148 of the above periodical (London, 1941) as follows:—

- (1) "Recent Earthquakes", No. 3740, p. 22, July 5;
- (2) "Stereographic Projection" (a review of the book by F. W. Schon, S.J., reported as No. 5257 of these lists), No. 3741, p. 37, July 12;
- (3) "Death notices of Prof. A. C. Carson and of Dr. G. van Dijk, both noted for contributions to seismology", *Ibid.*, p. 45;
- (4) "The International Seismological Summary", No. 3742, p. 83, July 19;
- (5) "Earthquake in Japan" and "Earthquakes Registered in Switzerland during 1939", No. 3743, p. 110, July 26;
- (6) "Earthquake of April 15, in Mexico", No. 3744, p. 138, Aug. 2;
- (7) "Mathematical Problems in Seismology", *Ibid.*, p. 146;
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- (9) "Epicentres of Earthquakes of April 20 and 21", *Ibid.*, p. 194;
- (10) "Recent Earthquakes", No. 3747, p. 224, Aug. 23;
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- (13) "Postglacial Uplift and the Mobility of the Earth's Interior", *Ibid.*, 347-348;
- (14) "Research in Geophysics", *Ibid.*, p. 348;
- (15) "Recent Earthquakes", No. 3752, p. 370, Sept. 27;
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5218. NELSON, J. H., "A 'Synchronous Direct-Current Motor' for Seismograph Recorders", *Bulletin, Seismological Society of America*, Vol. 31, No. 2, 129-137, 6 fig., bib., Berkeley, April, 1941.

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5219. NEUMANN, Frank, "Analysis of the El Centro Accelerograph Record of the Imperial Valley Earthquake of May 18, 1940". Mimeographed issue, U.S. Coast and Geodetic Survey, 20 pp., 14 pl., Washington, Aug., 1941.

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- NEUMANN, Frank, "Appendix J-b—Minutes of the Annual Meeting, April 25, 1940, Section of Seismology, American Geophysical Union". See pp. 744-745 of *Transactions, American Geophysical Union, 1940*, reported as No. 5168 of this list.
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- (1) "Predicting Bursts by Rock Noises", *The Northern Miner*, p. 11, Toronto, July 31, 1941;
- (2) "Growth of Safety Measures Reduces Mining Hazards", *Ibid.*, p. 15, Aug. 28.  
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5222. OBERT, Leonard, "Measurement of Pressures on Rock Pillars in Underground Mines", *U.S. Bureau of Mines, Reports of Investigations*, No. R.I. 3521, 11 pp., 9 fig., 4 tab., Washington, June, 1940.

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5223. OBERT, Leonard, "Use of Subaudible Noises for Prediction of Rock Bursts", *U.S. Bureau of Mines, Reports of Investigations*, R.I. 3555, 4 pp., Washington, Jan., 1941.

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5224. PATENTS. The following patents of interest to seismologists are listed in *Geophysics* (Vol. 6, No. 2, Houston) for April, 1941, on pp. 198-199:

- (1) FLUDE, J. W., "Casing for Bore Holes" (for seismic prospecting), U.S. No. 2,224,565, Dec. 10, 1940;
- (2) SCHAEFFER, H. C., and PETERSON, R. A., "Method of Making Weathering Corrections", U.S. No. 2,229,191, Jan. 21, 1941;
- (3) MINTON, J. P., "Method of Calibrating Field Timing Systems", U.S. No. 2,230,002 Jan. 28, 1941;
- (4) GARDNER, L. W., "Seismograph Prospecting", U.S. No. 2,231,575, Feb. 11, 1941;
- (5) KLIPSCH, P. W., "Recording Seismic Waves", U.S. No. 2,232,612, Feb. 18, 1941;
- (6) KLIPSCH, P. W., "Seismic Prospecting", U.S. No. 2,232,613, Feb. 18, 1941.

5225. PATENTS. On pp. 299–300 of *Geophysics* (Vol 6, No. 3, Houston, July, 1941) appears a list of patents recently granted in the field of seismic prospecting. They are indexed in this issue of the *Bibliography* under the names of the various patentees, as follows:—Sparks, Klipsch, Kelly, Silverman, Zuschlag, Ellis.

5226. PATENTS. Three recent issues of *Geophysical Abstracts* (99, 100, 101), reported as No. 5139 of this list, contain lists of patents some of which are of particular interest to seismologists. These are reported in this issue of the *Bibliography* under the respective names of the patentees, as follows: Minton; Woodyard, Putnam, and Prescott; Seismos; Ivanov; Vulfius; Reynolds; Kannenstine; Pogany; Blau, Mounce, and Rust; Owen; Slichter; Innes.

5227. PATENTS. The following patents of interest to seismologists are listed on pp. 128–133 of the bibliography reported as No. 5139 of this list.

- (1) ZUSCHLAG, Theodor, "Apparatus for Geophysical Exploration", U.S. Patent 2,202,885, June 4, 1940;
- (2) GREEN, William Gladstone, "Method for Seismic Prospecting", U.S. Patent 2,203,140, June 4, 1940;
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## LIST OF COLLABORATORS

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