

DEPARTMENT OF THE INTERIOR  
CANADA

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BY

ERNEST A. HODGSON

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# Bibliography of Seismology

July, August, September, 1934

2245. ACADÉMIE DES SCIENCES DE L'URSS. The following papers, in each case in the Russian language, continue the series of *Publications* of the above organization. The preceding issues have been reported as Nos. 1901 and 2092 of these lists.

- (1) Mushketov, D., "Matériaux séismo-tectoniques," *Proc. Acad. Sc. URSS.*, No. 33, 1-17, Leningrad, 1933.
- (2) Mushketov, D., "Seismical Regions of Central Asia," *Ibid.*, No. 34, 1-26, 1933.
- (3) Zschocher, V., "Seismic Regions of Central Asia from the Viewpoint of Quake-proof Structures," *Ibid.*, No. 34, 27-31, 1933.
- (4) Spesivceva, V. P., "Historical and Statistical Materials Concerning Seismic Activity in Central Asia," *Ibid.*, No. 34, 33-59, 1933.

These four papers, with short abstracts by W. Ayvazoglou, appear as Nos. 1898-1901, on page 1134 of *Geoph. Abs.*, No. 61. See No. 2301 of this list. F.W.L.

2246. ADAMS, C. E., "Report of the Dominion Astronomer and Seismologist for the year ended 31st December, 1932," *Bul.* No. 91, 7 pp., 1 map, Wellington, 1933.

2247. AGAMENNONE, G., "Il recente Congresso Internazionale di Lisbona," *Bol. Soc. Sis. Ital.*, Vol. 31, No. 5-6, 123-129, Rome, Nov., 1933. G.A.

2248. AOYAMA, H., HAENO, S., ISHIZAKI, M., and MIKAWA, I., "The Fundamental Theory and Practical Application of Seismic Prospecting Method" (in Japanese), *Jour. Min. Inst. Japan*, No. 575, Vol. 49, 131-147, Tokyo, 1933. F.W.L.

2249. BEITRÄGE ZUR GEOPHYSIK, "Herrn Professor Dr. Oskar Hecker," *Bei. Angew. Geoph.*, Bd. 4, Heft 3, 234-241, portrait, Leipzig, 1934.

This number of the above-mentioned periodical is dedicated as a "Hecker-Festschrift." On March 31, 1932, Dr. Hecker retired as Director of the Reichsanstalt für Erdbebenforschung in Jena, to which position Dr. August Sieberg has been appointed.

E.A.H.

2250. BORN, Axel,

- (1) "Zum Problem der Glazial-Isostasie," *Pub. Inst. Séis., Acad. Sc. URSS.*, No. 32, 51-60, 3 fig., Leningrad, 1933.
- (2) "Zum Problem der Vertikalverschiebung grosser Schollen," *Ibid.*, 71-89, 5 fig., bib., Leningrad, 1933. N.V.R.

See also No. 2092 of these lists.

2251. BOWERS, N. A., "California Makes Progress Against Earthquake Hazard," *Eng. N.-R.*, Vol. 113, No. 1, 14-17, New York, July 5, 1934.

2252. BRINCKMEIER, G., "Sonderfälle aus der Praxis des seismischen Verfahrens," *Bei. Angew. Geoph.*, Bd. 4, Heft 2, 152-164, 11 fig., Leipzig, 1934.

The author's English abstract reads: "It has been exposed that a seismic well-defined stratum will not be expressed in the time curve of the first arrivals under certain circumstances. With only regard to the time curve of the first arrivals, it is possible that errors occur in the calculation of depths up to 28 per cent (3 strata) and 20 per cent (4 strata). Besides the case is discussed that a stratum has a lenticular shape, i.e. that the upper and the lower interfaces are dipping one against the other. It results that it is difficult to distinguish the lenticular shaped stratum from the underlying one. Possibilities are mentioned how errors are to be avoided."

2253. BROWN, J. Coggin, "Small Sand Craters of Seismic Origin," *Nature*, No. 3356, Vol. 133, 295, London, Feb. 24, 1934.

2254. BUCHER, W. H., "The Deformation of the Earth's Crust," Princeton University Press, 518 pp., 100 fig., 6 tab. Price \$5. Princeton, 1933.

A review, signed W. S. Bayley, appears on pages 309-310 of *Econ. Geol.*, Vol. 29, No. 3, Urbana, Ill., May, 1934.

A review by W. J. McC. is given on pp. 329-332 of *Geol. Mag.*, No. 841, Vol. 71, July, 1934.

A review by A. Brammal is given on p. 31 of *The Min. Mag.*, Vol. 51, No. 1, London, July, 1934.

2255. BURRARD, Sidney (Sir), "Ground Levels in Bihar in Relation to the Earthquake of January 15, 1934," *Nature*, No. 3363, Vol. 133, 582-583, 1 map, London, Apr. 14, 1934.

2256. BYERLY, Perry, "The Texas Earthquake of August 16, 1931," *Bul. S.S.A.*, Vol. 24, No. 2, 81-99, 9 fig., bib., Stanford, Apr., 1934.

The author's summary reads: "The travel-time curve of *P* for the Texas earthquake of August 16, 1931, shows that there is a definite break in the travel-time curve near  $\Delta = 16^\circ$ . This is interpreted as indicating a first-order discontinuity at a depth of about 300 kilometers. Another break in the travel-time curve at  $\Delta = 25^\circ$  is strongly suggested. Beyond  $\Delta = 75^\circ$ , the curve has two branches, the lower following most existing curves, the upper following the Montana curve which latter seems to be a usual one for American earthquakes. This part of the curve is interpreted as indicating that the discontinuity at depth about 2,400 kilometers is a first-order one at which the speed of *P*-waves drops discontinuously.

"From the direction of first motion on the records it is concluded that a sufficient source would have been motion on a fault of strike about  $N 35^\circ W$ , the movement being up on the easterly side and down on the westerly side.

"The travel-times of all waves read on the records are plotted on graphs. The scattering of all waves after *P* is marked."

2257. BYERLY, Perry, "Northern California Earthquakes, April 1, 1932, to April 1, 1933," *Bul. S.S.A.*, Vol. 24, No. 2, 115-117, Stanford, Apr., 1934.

2258. CALOI, P., "Terremoti ad ipocentro profondissimo: Profondità ipocentrale del terremoto del Mar del Giappone del 13-XI-1932," *Bol. Soc. Sis. Ital.*, Vol. 31, No. 5-6, 130-135, 1 fig., Rome, Nov., 1933. G.A.



2259. CARNERA, Luigi, "La stazione dei pendoli orizzontali nelle R. R. Grotte di Postumia," *Bol. Com. Naz. Ital. Geod. Geof.*, Second Series, Anno 3, No. 9-10, 79-88, 5 illus., Rome, Nov., 1933.

2260. CENTRAL METEOROLOGICAL OBSERVATORY, "The Seismological Bulletin," Vol. 2, No. 5, for 1929; No. 6, for 1930; No. 7, for 1931; No. 8, for 1932. Published at Tokyo in 1934, with the exception of the first which was issued in 1932.

These bulletins discuss generally the seismic and volcanic activity in Japan for the year indicated in each case; and present, in addition to the usual list of seismic records, the discussion on each of the more important earthquakes for the year.

2261. CHUBB, L. J., "The Structure of the Pacific Basin," *Geol. Mag.*, Vol. 71, No. 7, 289-302, 4 fig., 2 tab., bib., London, July, 1934.

2262. CONRAD, V.,

(1) "Zur Vierteljahrhundertfeier der Carnegie Institution of Washington," *Ger. Bei.*, Bd. 23, 353-355, 1 fig., Leipzig, 1929.

(2) "Kritisches über eine vermutete kurzperiodische Schwankung der Bebenhäufigkeit," *Bei. Phys. der freien Atmos.*, Bd. 19, 246-249, 2 fig., 1932. A.S.

— CONRAD, V., "Bemerkungen zu Herrn Vissers Kritik an H. H. Turners Epizentral- und Tiefenbestimmungen." See No. 2351 of this list.

— CORKAN, R. H. and DOODSON, A. T., "Load Tilt and Body Tilt at Bidston." See No. 2269 and No. 2315 of this list.

2263. COULOMB, J., "Le début des ondes de Love," *C. R.*, T. 198, No. 17, 1525-1527, Paris, Apr. 23, 1934. J.C.

— CRARY, A. P., THORNE, A. M., Jr., and EWING, Maurice, "Propagation of Elastic Waves in Ice." See No. 2273 of this list.

2264. DAVIS, W. M., "Submarine Mock Valleys," *Geog. Rev.*, Vol. 24, No. 2, 297-308, New York, Apr., 1934.

2265. DAVISON, Charles, "The Lunar Periodicity of Earthquakes." *Phil. Mag.*, No. 114, Vol. 17, 737-752, 9 tab., London, Apr., 1934. R.R.B.

The author finds clear evidence of the existence of three periods of mean duration, 29.6, 14.8, and 7.4 days. He discusses the relation of the maximum for each of these three periods with the phases of the moon and deduces possible dependence of these relations on the mode of origin of the earthquakes.

2266. DAVISON, Charles, "The Hawke's Bay Earthquake of February 3, 1931," *Nature*, No. 3370, Vol. 133, 841-842, 1 map, London, June 2, 1934.

The above paper is an extended review of the report on the Hawke Bay earthquake listed as No. 1967 of this *Bibliography*.

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2668. DE MONTALK, R. W., "Earthquakes: The Futility of Predicting Them," *Bul. S.S.A.*, Vol. 24, No. 2, 100-108, tab., Stanford, Apr., 1934.

2269. DOODSON, A. T. and CORKAN, R. H., "Load Tilt and Body Tilt at Bidston," *M. N. Geoph. Sup.*, Vol. 3, No. 6, 203-212, 1 fig., bib., London, May, 1934.

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2270. DOXSEE, W. W.,

(1) "The Location of Epicentres, 1923-4-5," *Pub. Dom. Obs.*, Vol. 7, No. 4, 103-188, Ottawa, 1929.

(2) "The Location of Epicentres, 1926-7," *Ibid.*, No. 5, 189-259, Ottawa, 1930.

The series of publications on the Location of Epicentres, begun in 1911 by the Dominion Observatory and carried through continuously to the end of 1927, is terminated with the above publications.

2271. EARTHQUAKE RESEARCH INSTITUTE, "Papers and Reports on the Tsunami of 1933 on the Sanriku Coast, Japan," *Sup. Vol. 1*, of the *Bul. Eq. Res. Inst.*; Part 1, 1-271; Part 2, 1-250; 226 pl., Tokyo, March, 1934.

The most complete discussion of the destructive tsunami of 1933 is divided into two parts devoted respectively to Papers and Reports. Much of Part 1 is in English, some in Japanese. Part 2 is all in Japanese. Both parts appear in the same volume. There are sixteen papers in Part 1. An index to these will be found in the present issue of the *Bibliography*, listed under the names of the authors: Imamura, Ishimoto, Hagiwara, Terada, Yamaguti, Matuo, Inouye, Musya, Miyabe, Otuka, Takahasi, Nishimura, Kanai, Nasu, Suyehiro, and Takayama. Some of the above authors have contributed more than one paper. Some papers are issued by joint authors. Part 2 presents: Seismometrical Report, Mareograms, Reports of Field Investigations, Responses to Questionnaires, Reports on Sea Shocks, Damages, Maps and Photographs.

2272. ERICSSON, Sven, "Notas sobre la teoria Peruana respecto al origen e prevision de temblores," *Bol. Soc. Geog. Lima*, T. 51, No. 1, 46-50, Lima, 1934.

2273. EWING, Maurice, CRARY, A. P., and THORNE, A. M., Jr., "Propagation of Elastic Waves in Ice. Part I," *Physics*, Vol. 5, No. 6, 165-168, 4 fig., New York, June, 1934.

Part II of the report, by the first two only of the above authors, appears in the same journal, Vol. 5, No. 7, 181-184, 9 fig., New York, July, 1934.

A good summary accompanies each published part. The velocity of the longitudinal wave, as obtained in the case of direct measurements on large bodies of ice, was found to be 3410 m./sec. Laboratory experiments to obtain the same velocity yielded a value of 3400 m./sec., showing remarkably good agreement.

2274. FAIRCHILD, H. L., "Silencing the 'Guns' of Seneca Lake," *Science*, No. 2050, Vol. 79, 340-341, 1 fig., New York, Apr. 13, 1934.

The same author presents a detailed account of the geological history of the same region in a paper entitled, "Cayuga Valley Lake History" (*Bul. Geol. Soc. Am.*, Vol. 45, No. 2, 233-280, 13 fig., bib., Washington, Apr. 30, 1934).

A paper by O. D. Von Engeln, describing the phenomenon known as the "Cayuga Lake Guns," was reported as No. 93 of the first series of these lists.

See also No. 2287 of this list, and a note by G. R. Wieland which appears in *Science*, No. 2058, Vol. 79, 524-525, New York, June 8, 1934.

2275. FRANZ, Shepherd Ivory and NORRIS, Aileen, "Human Reactions in the Long Beach Earthquake," *Bul. S.S.A.*, Vol. 24, No. 2, 109-114, 1 map, 1 tab., Stanford, Apr., 1934.

2276. GASSMANN, F., "Seismische Bestimmung einer geneigten Grenzfläche von unbekannter Fallrichtung," *Bei. Angew. Geoph.*, Bd. 4, Heft 3, 358-363, 4 fig., Leipzig, 1934.

2277. GERECKE, Friedrich, "Wellentypen, Strahlengang und Tiefenberechnung bei seismischen Eisdickenmessungen auf dem Rhonegletscher," Diss., Math.-Natur. Fak., George August Universität, Göttingen. *Seis. Unter. Geoph. Inst. Gött.*, No. 11, p. 29, 10 fig., bib., Braunschweig, 1933.

2278. GRÄFE, H., "Über die Deformation der Erdoberfläche durch Scherungskräfte im Herd von Erdbeben," *Zeit. Geoph.*, Jahr. 10, Heft 1, 17-26, 14 fig., bib., Braunschweig, 1934.

The above is No. 14 of the series, *Seismische Untersuchungen des Geophysikalischen Instituts in Göttingen*.

2279. GREEN, Norman B. and HORNER, A. C., "Joist Anchors in Masonry Walls Tested for Earthquake Resistance," *Eng. N.-R.*, Vol. 113, No. 2, 35-38, 2 fig., 2 tab., New York, July 12, 1934.

2280. HAALCK, Hans, "Lehrbuch der angewandten Geophysik." Gebrüder Borntraeger, vii+376 pp., 142 fig., 6 pl. Price RM 26 (bound). Berlin, 1933.

Seismic methods are dealt with in Chap. IV (pp. 288-352).

— HAENO, S., ISHIZAKI, M., MIKAWA, I., and AOYAMA, H., "The Fundamental Theory and Practical Application of Seismic Prospecting Method" (in Japanese). See No. 2248 of this list.

— HAGIWARA, Takahiro and ISHIMOTO, Mishio, "The Tunami Considered as a Phenomenon of Sea Water Overflowing the Land," pp. 17-24 (3 fig.) of Sup. Vol. 1, *Bul. Eq. Res. Inst.* See No. 2271 of this list.

2281. HERRMANN, A., "Empfindlichkeitssteigerung bei piezoelektrischen Beschleunigungsmessern," *Bei. Angew. Geoph.*, Bd. 4, Heft 3, 296-301, 3 fig., Leipzig, 1934.

2282. HILLER, W., "Karl Mack," *Zeit. Geoph.*, Jahr. 10, Heft 1, 1-2, Braunschweig, 1934; and also *Ger. Bei.*, Bd. 41, Heft 3, 265-266, portrait, Leipzig, 1934.

The above-listed obituaries review the life and work of the late Dr. Karl Mack who died in Stuttgart-Degerloch at the age of seventy-seven.

2283. HILLER, W., "Seismische Berichte der Württembergischen Erdbebenwarten, Jahrgang 1933," *Veröff. M-g. Ab. Württ. Stat. Land.*, pp. i-iii, 1-68, A1-A19, Stuttgart, 1934.

The above publication, in mimeographed form with printed cover, presents the tabular seismological data for the Württemberg seismograph station on pages 1-68.



The A-pages deal with (A) A review of the microseismic and macroseismic registration for the year, including discussions of particular earthquakes; and (B) Further observations on the registration of the *S*-wave for distances greater than 10,000 km.

W.H.

2284. HILLS, G. F. S., "The Granitic and Basaltic Areas of the Earth's Surface," *Geol. Mag.*, No. 840, Vol. 71, 275-276, London, June, 1934.

On pp. 276-280, Harold Jeffreys presents comment on the above paper under the title, "Note on Mr. Hills' Paper."

- HORNER, A. C. and GREEN, Norman B., "Joist Anchors in Masonry Walls Tested for Earthquake Resistance." See No. 2279 of this list.

2285. HULIN, Carlton D., "Mechanics of Fault Movements," *Pan-Amer. Geol.*, Vol. 61, No. 4, 318, Des Moines, May, 1934.

The above is the abstract only of a paper presented before the Cordilleran Section of the Geological Society of America at its thirty-third annual meeting, held in Berkeley, April 12-14, 1934.

2286. IMAMURA, Akitune, "Chronic Movements of a Minor Crustal Block as Revealed by the Revision of a Levelling Line into one with Closely-spaced Bench-marks," *Proc. Imp. Acad.*, Vol. 10, No. 2, 69-72, 3 fig., Tokyo, Feb., 1934.

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2287. INGALLS, Albert G., "'Guns' of Seneca Lake," *Science*, No. 2056, Vol. 79, 479-480, New York, May 25, 1934.

See also No. 2274 of this list.

- INOUE, Win, "On Sound Phenomena of the Sanriku Earthquake of March 3rd, 1933" (in Japanese with short summary in English), pp. 77-86 of Sup. Vol. 1, *Bul. Eq. Res. Inst.* See No. 2271 of this list.

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- ISHIZAKI, M., MIKAWA, I., AOYAMA, H., and HAENO, S., "The Fundamental Theory and Practical Application of Seismic Prospecting Method" (in Japanese). See No. 2248 of this list.

2288. JEFFREYS, Harold, "On Errors Due to Variation of Drum-rate," *M. N. Geoph. Surv.*, Vol. 3, No. 6, 213-222, London, May, 1934.

See also No. 2315 of this list.

- JEFFREYS, Harold, "Note on Mr. Hills' Paper, 'The Granitic and Basaltic Areas of the Earth's Surface.'" See No. 2284 of this list.

2289. JEMMA, R., "Le previsioni dei terremoti per mezzo della rivelazione delle perturbazioni elettriche e magnetiche della terra," *Gli Astri, Riv. mens. dell' Assoc. Ital. Astrofili*, Vol. 2, 226, Jul.-Aug., 1933. G.A.

A lengthy abstract in Italian appears on pp. 173-174, *Bol. Soc. Sis. Ital.*, Vol. 31, No. 5-6, Nov., 1933. (Pages 173-183 of the *Bolletín* are devoted to the second and final section of the "Rassegna Sismologica," a valuable bibliography to which reference was made in No. 2132 of these lists).

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- (1) "The Measurements of the Viscosity of Basalt Glass at High Temperatures, I," *Proc. Imp. Acad.*, Vol. 10, No. 1, 29-32, 3 fig., 3 tab., Tokyo, Jan., 1934.
- (2) "The Measurements of the Viscosity of Basalt Glass at High Temperatures, II," *Ibid.*, No. 2, 79-82, Tokyo, Feb., 1934.

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- (1) "Thermal Expansion of Basaltic Hornblende," *Proc. Imp. Acad.*, Vol. 10, No. 1, 25-28, 1 fig., bib., Tokyo, Jan., 1934.
- (2) "Thermal Expansion of Augite," *Ibid.*, No. 2, 87-90, 2 fig., 2 tab., Tokyo, Feb., 1934.

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2297. KUPRADZE, V. D., "Über die Fortpflanzung der elastischen Schwingungen in festen Medien," *Pub. Inst. Seis., Acad. Sc. URSS.*, No. 32, 131-137, Leningrad, 1933.

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The author's abstract reads: "A single spring vertical motion seismograph of theoretically infinite period is described. Actual periods of over a minute have been obtained with a seismograph of this type while for a period of 37 seconds the period was found to be constant to within 1 second for a variation of 9° in the angle between the seismograph arm and the horizontal. A special type of spring is required. The method of winding such a spring is described. A possible method of temperature compensation is given."

2299. LANDSBERG, H., "Zur Laufzeitkurve der  $P_n$ -Welle bei Fernbeben," *Mim. Rep.*, pp. 2, 1 fig., Taunus, 1934.

It may be noted here that a recent letter from Prof. Dr. F. Linke, Director of the Universitäts Institut für Geophysik und Meteorologie, Frankfurt a.M. and of

Reinach'sche Erdbebenwarte des Taunus Observatoriums, announces that the latter subsidiary institution is to be discontinued.

A notification dated May 31, has been received from Dr. Landsberg, to the effect that his address is now School of Mineral Industries, State College, Pennsylvania, U.S.A.

2300. LEE, A. W., "Further Investigations of the Effect of Geological Structure upon Microseismic Disturbance," *M.N., Geoph. Sup.*, Vol. 3, No. 6, 238-252, 4 fig., 6 tab., London, May, 1934.

2301. LEE, Frederick W., "Geophysical Abstracts," No. 60, 1105-1127, Apr.; No. 61, 1128-1152, May; No. 62, 1153-1178, June; No. 63, 1179-1202, July; Washington, 1934. F.W.L.

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2304. LYNCH, Joseph, S. J., "Earthquakes: What They Are, How the Scientist Observes Them, and Why They Are Observed," *Scien. Amer.*, Vol. 150, No. 5, 246-248, 4 fig., New York, May, 1934.

2305. MATÉRIAUX POUR L'ÉTUDE DES CALAMITÉS, "Vers une nouvelle victoire de l'homme sur la nature," *Mat. E. Cal.*, No. 32, 353-358, Geneva, 1933.

A short note, signed "Tecnicus," which appeared originally in *Il Messagero*, Rome, Dec. 15, 1933, and which deals with the recent advances in seismology along the line of aseismic construction, etc.

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2306. MEINESZ, F. A. Vening, "Bemerkungen angesichts des Themas: 'Moderne Geotektonische Theorien, deren physiko-mechanische Grundlagen samt entsprechenden Schlussfolgerungen über die Seismizität,'" *Pub. Inst. Seis., Acad. Sc. URSS.*, No. 32, 91-95, Leningrad, 1933. N.V.R.
- See also No. 2092 of these lists.
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- MINDLIN, Raymond D., "A Reflection Polariscope for Photoelastic Analysis." See No. 2346 of this list.
2307. MIYABE, Naomi, "Deformation of the Earth's Crust along the Pacific Coast, Japan Sea Coast and Central Zone of Japan," *Proc. Imp. Acad.*, Vol. 10, No. 5, 364-367, 2 fig., 1 tab., Tokyo, May, 1934.
- MIYABE, Naomi, "An Investigation of the Sanriku Tunami Based on the Mareogram Data," pp. 112-126 (5 fig.) of Sup. Vol. 1, *Bul. Eq. Res. Inst.* See No. 2271 of this list.
- MIYABE, Naomi and TERADA, Torahiko, "Revision of Precise Levelling along R. Tenryu, from Simosuwa to Kakegawa, 1934." See No. 2342 of this list.
2308. MÜHLEN, Walter v. ZUR, "Über seismische Oberflächenwellen und ihre Beziehung zum geologischen Aufbau des eurasiatischen Kontinents," *Zeit. Geoph.*, Jahr. 10, Heft 1, 26-40, 7 fig., bib., Braunschweig, 1934.
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- The above is No. 12 of the series, *Seismische Untersuchungen des Geophysikalischen Instituts in Göttingen*.
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- MUSYA, Kinkiti, "On the Luminous Phenomena that Accompanied the Great Sanriku Tunami in 1933 (Part 1)," pp. 87-111 (2 fig.) of Sup. Vol. 1, *Bul. Eq. Res. Inst.* See No. 2271 of this list.



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- (2) "Continental Margins as Slip-lines: Contour of Japanese Islands," *Ibid.*, No. 2, 73-75, 2 fig., Tokyo, Feb., 1934.
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- (2) "Studio sul terremoto avvenuto il 23 luglio 1930 nell'Irpinia: Relazione presentata a S. E. il Ministro dell'Agric. e delle Foreste, con pratiche conclusioni par la difesa sismica del paese," *La Met. Pratica*, Vol. 13, 16-26; 77-84; 116-125; 171-176; Perugia, 1932. G.A.
- OTUKA, Yanosuke, "Tsunami Damages, March 3rd, 1933, and the Topography of the Sanriku Coast, Japan" (in Japanese with a short summary in English), pp. 127-151 (16 fig.) of Sup. Vol. 1, *Bul. Eq. Res. Inst.* See No. 2271 of this list.
2317. PAGE, Ben M., "Fault-scarps of 1915 in Pleasant Valley, Nevada," *Pan-Amer. Geol.*, Vol. 61, No. 4, 312-313, Des Moines, May, 1934.
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- (2) "Datos Sísmicos de la Península Ibérica, 3<sup>er</sup> trimestre de 1933," *Ibid.*, 2 pp. in reprint, 1 map.
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2323. ROTHÉ, E., "Rapport sur la propagation des ondes séismiques à courte distance," *Pub. Inst. Seis., Acad. Sc. URSS.*, No. 32, 139-168, 14 fig., bib., Leningrad, 1933. N.V.R.
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- (2) "Earthquake After-shocks Follow the Moon," and "Severe Earthquake Shakes Alaska," *Ibid.*, No. 684, 313, May 19, 1934.
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## LIST OF COLLABORATORS

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

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