

DEC 10 1932

DEPARTMENT OF THE INTERIOR
CANADA

HON. THOMAS G. MURPHY, *Minister*

H. H. ROWATT, *Deputy Minister*

PUBLICATIONS

OF THE

Dominion Observatory

OTTAWA

R. MELDRUM STEWART, *Director*

Vol. X

Bibliography of Seismology

No. 15

JULY, AUGUST, SEPTEMBER, 1932

BY

ERNEST A. HODGSON

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1932

✓
Price 25 cents.

This document was produced
by scanning the original publication.

Ce document est le produit d'une
numérisation par balayage
de la publication originale.

DEPARTMENT OF THE INTERIOR
CANADA

HON. THOMAS G. MURPHY, *Minister*

H. H. ROWATT, *Deputy Minister*

PUBLICATIONS
OF THE
Dominion Observatory
OTTAWA

R. MELDRUM STEWART, *Director*

Vol. X

Bibliography of Seismology

No. 15

JULY, AUGUST, SEPTEMBER, 1932

BY

ERNEST A. HODGSON

OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1932

LIBRARY
GEOLOGICAL SURVEY
OF CANADA

DEPARTMENT OF THE INTERIOR

CANADA

W. H. LORIMER, Deputy Minister

Howe Street, Ottawa, Ontario

PUBLICATIONS

Dominion Observatory

OTTAWA

Published by the Dominion Observatory

Vol. X

Bibliography of Seismology

No. 15

JULY-SEPTEMBER 1933

Price 1.00

PRINTED IN THE KINGDOM OF GREAT BRITAIN

LIBRARY
GEOLOGICAL SURVEY
OF CANADA

Bibliography of Seismology

JULY, AUGUST, SEPTEMBER, 1932

1401. AGAMENNONE, G., "Pendolo orizzontale ultrapotente a registrazione meccanica," *Rendiconti della Real Accademia Nazionale dei Lincei, Classe di Scienze fisiche, matematiche e naturali*, **15**, Series 6, Semi-fascicule 5, 382-385, 1 figure, Rome, March, 1932. G.A.
1402. AGAMENNONE, G. and SAUVE, A., "Accelerometro sismico a scala variabile," *Bollettino della Società Sismologica Italiana*, **30**, Fascicule 1, 55-64, 3 figures, bibliography, Rome, 1932.
1403. ALFANI, P. Guido, d.S.P., "Il fotosismografo Alfani," *Bollettino del Comitato Nazionale Italiano per la Geodesia e la Geofisica*, Second Series, **2**, No. 4, 75-78, 3 figures, Rome, April, 1932.
1404. BATEMAN, H., "Partial Differential Equations of Mathematical Physics," Cambridge University Press, 522 + xxii pages. Price 42s. London, 1932.
A review, signed H.T.F., appears on pages 525-526 of *The Proceedings of the Physical Society*, No. 244, **44**, Part 4, Cambridge, July 1, 1932.
1405. BEANFIELD, R. McC. and FLORIS, A., "Dynamic Behavior of Tall Structures," *Western Construction News*, 499-502, 5 figures, Los Angeles, September 25, 1931.
Mr. Beanfield has since prepared a multigraphed memorandum of seven pages, with three blue-print diagrams, entitled "Regulatory Requirements Governing Earthquake Resistance of Structures." His address is 608 Chamber of Commerce Building, Los Angeles, Cal. R. McC. B.
1406. BENIOFF, Hugo, "A New Vertical Seismograph," *Bulletin of the Seismological Society of America*, **22**, No. 2, 155-169, 13 figures, Stanford, June, 1932.
1407. BLUT, Heinrich, "Ein Beitrag zur Theorie der Reflexion und Brechung elastischer Wellen an Unstetigkeitsflächen," *Zeitschrift für Geophysik*, **8**, Heft 3-4, 130-144, 13 figures, Braunschweig, 1932.
The above paper is No. 5 of the series *Seismische Untersuchungen des Geophysikalischen Instituts in Göttingen*.
1408. BOBILLIER, Carlos, "Séismes et éruptions récents au Chili," *Matériaux pour l'Étude des Calamités*, No. 25, 42-44, Geneva, 1931.
1409. BOIS, Ch., "Chronique sismologique: les tremblements de terre destructeurs du 1^{er} janvier au 1^{er} avril, 1931," *Matériaux pour l'Étude des Calamités*, No. 25, 52-56, Geneva, 1931.
1410. BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, "Problems of the Earth's Crust," *Geographical Journal*, **78**, No. 5, 433-455, London, November, 1931.
The article presents a discussion in Section E (Geography) of the British Association on 28 September, 1931, in the Hall of the Society. The discussion was led by Sir Halford Mackinder (President), Mr. Arthur R. Hinks, Dr. G. C. Simpson, Dr. J. H. J. Poole, Professor J. W. Gregory, Professor Arthur Holmes, Dr. Harold Jeffreys, and Dr. J. DeGraaff Hunter.

1411. BURKY, Ch., "Le séisme de Nouvelle-Zélande," *Matériaux pour l'Étude des Calamités*, No. 25, 78-80, Geneva, 1931.
- BUWALDA, J. P., GUTENBERG, B., and WOOD, H. O., "Experiments Testing Seismographic Methods for Determining Crustal Structure." See No. 1429 of this list.
1412. CALOI, P., "La nuova stazione sismica di Trieste," *Bollettino del Comitato Nazionale Italiano per la Geodesia e la Geofisica*, Second Series, 2, No. 4, 67-74, 6 figures, Rome, April, 1932.
1413. COULOMB, J., "Sur certaines ondes longues rapides, en particulier sur l'onde *PL* d'O. Somville," *Comptes rendus*, 194, No. 23, 1211-1214, Paris, 1931. J.C.
1414. CRITIKOS, N. A., "Sur les causes des mouvements microsismiques réguliers du sol d'une période de 4^s to 8^s à Athènes," *Union Géodésique et Géophysique Internationale, Section de Séismologie, Travaux Scientifiques*, Fascicule 7, 5-11, 1 illustration, Strasbourg, 1932.
The above is one of the communications presented at the Stockholm meeting of the International Union. See also No. 916 of this series for a similar paper by the same author but written in German.
1415. DAVIS, Watson, "Your Chances of Death by Earthquake," *Science News Letter*, No. 579, 21, 306-307, 2 illustrations, Washington, May 14, 1932.
1416. DAVISON, Charles, "Earthquakes and Human Life," *Matériaux pour l'Étude des Calamités*, No. 25, 80-82, Geneva, 1931.
1417. DIXON, C. E., "Earthquake Proves Superiority of Wooden Buildings." Reprint from the *New Zealand National Review*, March-April, 1931.
The booklet is attractively printed. It consists of thirty-one pages and is illustrated by seventeen figures and twenty-six reproductions from photographs. A.S.M.
1418. EARTHQUAKE RESEARCH INSTITUTE, "Precise Levellings along a Route from Okitu to Kusimoto," *Bulletin of the Earthquake Research Institute*, 10, Part 2, 491, 1 map, Tokyo, June, 1932.
1419. ENGLISH MECHANICS, "The Crystal Clock in Astronomy," *English Mechanics*, Nos. 296 and 299, 12, pp. 255 and 332, London, June 24 and July 15, 1932.
- FLORIS, A. and BEANFIELD, R. McC., "Dynamic Behavior of Tall Structures." See No. 1405 of this list.
1420. FOTHERINGHAM, J. K., "Herbert Hall Turner, 1861-1930," *The Oxford Magazine*, 4 pages in the reprint, October 16, 1930.
- FREEMAN, John R., "Engineering Seismology." See No. 1487 of this list.
1421. FRISCH, Karl, "Some Data Concerning the Angles of Emergency in Strong Earthquakes According to Registrations in Tartu," *Gerlands Beiträge zur Geophysik*, 36, Heft 1, 13-19, 3 figures, 9 tables, Leipzig, 1932.

1422. GAUTHIER, H., S.J., "Résumé du catalogue des tremblements de terre signalés en Chine," *Bulletin de l'Observatoire de Zi-Ka-Wei*, **33**, Fascicule C, 176 pages, Zi-Ka-Wei, 1907.
This catalogue lists earthquakes which occurred in China between the dates 1767 B.C. and 1896 A.D. Although the catalogue appears as part of the *Bulletin* for 1907, the preface is dated October, 1911, and the date of publication as given on the last page is May 22, 1912. A total of 3,322 earthquakes is listed.
1423. GEOLOGICAL SOCIETY OF AMERICA, "Proceedings of the Forty-fourth Annual Meeting of the Geological Society of America, held at Tulsa, Oklahoma, Tuesday, Wednesday, and Thursday, December 29, 30, and 31, 1931," *Bulletin of the Geological Society of America*, **43**, Washington, March 31, 1932.
The following papers, published in abstract in the above Proceedings, are of interest to seismologists:
- MEINESZ, F. A. Vening, "Gravimetric Results in the Dutch East Indies in Connection with Mountain Folding Processes," pg. 124.
- LAWSON, A. C., "Insular Arcs, Foredeeps, and Geosynclinal Seas of the Asiatic Coast," pg. 126.
- WASHBURN, C. W., "Doubt Concerning Tension in the Earth's Crust," pg. 145.
- SELLARDS, E. H., "Texas Earthquake of August 16, 1931," pg. 146.
1424. GERECKE, F. and MÜLLER, H. K., "Messungen auf dem Rhönegletscher," *Zeitschrift für Geophysik*, **8**, Heft 1-2, 65-71, 2 figures, Braunschweig, 1932.
The paper is divided into the following sections: "Die Laufzeitkurve," which is treated by the first author, and "Azimut und Emergenzwinkel der Verschiebung von P und S," which is treated by the second author. The whole comprises the first number of the series *Seismische Untersuchungen des Geophysikalischen Instituts in Göttingen*.
1425. GHERZI, E., S.J., "Notes de Séismologie." Under this general title, Father Gherzi has published the following memoirs from the Observatory of Zi-Ka-Wei. They are numbered consecutively from 1 to 11. The price of each is \$1. Nos. 8 and 9 have been reported, respectively, as items 833 and 731 of these lists.
- (1) "Le tremblement de terre du 16 déc. 1920 au Kan-sou (Chine)," 12 pages, 9 plates, Zi-Ka-Wei, 1921.
 - (2) "Principaux séismogrammes en 1922," 4 plates.
 - (3) "Principaux séismogrammes en 1922,—la périodicité des répliques séismiques."
 - (4) "Principaux séismogrammes en 1923," 8 pages, 6 plates.
 - (5) "Principaux séismogrammes en 1923,—étude sur les microséismes," 10 pages, 10 plates.
 - (6) "Principaux séismogrammes en 1924,—étude sur les ondes de dilatation et les ondes de condensation," 21 pages, 2 maps, 3 plates.
 - (7) "Principaux séismogrammes en 1925,—mouvements séismiques des magnéto-mètres à Zi-Ka-Wei et à Lu-Kia-pang (1877-1924)," 33 pages, 7 plates.
 - (8) "Principaux séismogrammes en 1926,—houle et microséismes sur la côte de Chine," 12 pages, 6 plates.
 - (9) "Le tremblement de terre du 23 mai 1927, près de Liangchow, Kansu occidental," 9 pages, 5 plates.
 - (10) "Étude sur les microséismes causés par le froid: principaux séismogrammes en 1928," 23 pages, 5 plates.
 - (11) "Séismographes Galitzine et séismes locaux, ondes longues 'Z', et temps orangeux," 7 pages, 6 plates.

1426. GHERZI, E., S.J., "Cyclones and Microséisms," *Gerlands Beiträge zur Geophysik*, **36**, Heft 1, 20-23, 2 figures, Leipzig, 1932.

1427. GRÄFE, H., "Das Nordtiroler Beben vom 8. Oktober 1930. I Teil," *Zeitschrift für Geophysik*, **8**, Heft 3-4, 144-154, 4 figures, Braunschweig, 1932.

The above is the sixth number of the series *Seismische Untersuchungen des Geophysikalischen Instituts in Göttingen*.

— GREGORY, J. W., "Problems of the Earth's Crust. See No. 1410 of this list.

We regret to report that Professor Gergory lost his life in a canoe accident on the Urubamba river in South America, on June 2, as announced by *Science*, No. 1958, **76**, pg. 28, New York, July 8, 1932.

1428. GUTENBERG, B., RICHTER, C. F., and WOOD, H. O., "The Earthquake in Santa Monica Bay, California, on August 20, 1930," *Bulletin of the Seismological Society of America*, **22**, No. 2, 138-154, 3 figures, 3 tables, Stanford, June, 1932.

1429. GUTENBERG, B., WOOD, H. O., and BUWALDA, J. P., "Experiments Testing Seismographic Methods for Determining Crustal Structure," The Geological Society of America, Cordilleran Section, List of Papers with Abstracts, Thirty-first Annual Meeting, Stanford Univeristy, 29-30, Palo Alto, April, 1932.

The above report presents an abstract only. It deals with the experiments carried out in four localities in California. The work in one of these—the Yosemite valley—was reported in many news items at the time the work was in progress.

1430. HEILAND, C. A. and WANTLAND, Dart, "A Selected List of Books and References on Geophysical Prospecting," *Colorado School of Mines Quarterly*, **26**, No. 3, 24 pages, Golden, July, 1931.

1431. HEISKANEN, W., "Der heutige Stand der Isostasiefrage," *Gerlands Beiträge zur Geophysik*, **36**, Heft 2-3, 177-205, bibliography, Leipzig, 1932.

— HINKS, Arthur R., "Problems of the Earth's Crust," See No. 1410 of this list.

— HOLMES, Arthur, "Problems of the Earth's Crust." See No. 1410 of this list.

1432. HOPFNER, F., "Neue Wege zur Bestimmung der Erdfigur," *Gerlands Beiträge zur Geophysik* Supplementband I, 291-372, 9 figures, bibliography, Leipzig, 1931.

— HUNTER, J. DeGraaff, "Problems of the Earth's Crust." See No. 1410 of this list.

1433. HYDROGRAPHIC OFFICE, U.S.A., "Earthquake Epicentres and Gravity Anomalies in the Gulf of Mexico, Caribbean Sea and Adjacent Regions." A chart, marked: 1st Edition, June, 1932 (Preliminary), H. O. Miscellaneous No. 7941. R. M. F. + W. R. G.

The chart shows with distinguishing symbols:

(1) Gravity stations on land and on the sea, using four types of symbols to indicate the sources of the data used.

(2) Earthquake epicentres as reported since 1913 by the British Association, the International Summaries, and the U.S. Coast and Geodetic Survey.

(3) Earthquake epicentres as reported before 1913 by the late Montessus de Ballore and other writers.

(4) Seismographic Stations.

The chart is a most important contribution to the seismological data of the region indicated.

1434. IMAMURA, Akitune, "Further Studies on the Block-Movement of the Kii Peninsula," *Proceedings of the Imperial Academy*, 8, No. 5, 163-166, Tokyo, May, 1932. A. I.
- IRLAND, G. A. and LEE, F. W., "Construction of Master Mechanical Oscillator for Testing Seismic Recorders and Other Allied Apparatus." See No. 1454 of this list.
1435. ISHIMOTO, Mishio, "Existence d'une source quadruple au foyer sismique d'après l'étude de la distribution des mouvements initiaux des secousses sismiques," *Bulletin of the Earthquake Research Institute*, 10, Part 2, 449-471, 16 figures, Tokyo, June, 1932.
1436. ITOO, Tokunosuke, "Über Oberflächenwellen (Second paper)," *Gerlands Beiträge zur Geophysik*, 35, Heft 3-4, 349-356, Leipzig, 1932.
The first paper was reported as No. 1040 of these lists.
1437. JEFFREYS, Harold, "Cartesian Tensors," The Macmillan Company, 93 pages. Price \$1.75. New York, 1931.
A review, signed E. L. Hill, appears on page 117 of *The Physical Review*, 41, No. 1, Minneapolis, July, 1932.
1438. JEFFREYS, Harold, "Tables of the Times of Transmission of the *P* and *S* Waves of Earthquakes." Special publication of the British Association for the Advancement of Science, 16 pages, Newport, 1932.
Copies of the above Tables may be obtained at the price of one shilling from the Secretary of the British Association, Burlington House, London W. 1, or from the University Observatory, Oxford.
The tables give transmission times for *P* and *S*, and also the differences *S-P*, for intervals of tenths of degrees arcual epicentral distance. Two pages of descriptive matter precede the tabulations proper. It is stated that the "times are average values for a shallow focus; for a continental earthquake, a focus in the upper layers."
1439. JEFFREYS, Harold, "The Deformation of the Earth Due to Unsymmetrical Cooling," *Monthly Notices of the Royal Astronomical Society, Geophysical Supplement*, 3, No. 2, 53-59, London, May, 1932.
1440. JEFFREYS, Harold, "On the Stresses in the Earth's Crust Required to Support Surface Inequalities (Second Paper)," *Monthly Notices of the Royal Astronomical Society, Geophysical Supplement*, 3, No. 2, 60-69, London, May, 1932.
1441. JEFFREYS, Harold, "On the Figure of the Earth," *Gerlands Beiträge zur Geophysik*, 36, Heft 2-3, 206-211, Leipzig, 1932.
1442. JEFFREYS, Harold, "Elastic Instability and Geology," *The Geological Magazine*, No. 817, 69, 321-324, London, July, 1932.
- JEFFREYS, Harold, "Problems of the Earth's Crust." See No. 1410 of this list.
1443. JOHNSON, Douglas, "Principles of Marine Level Correlation," *Geographical Review*, 22, No. 2, 294-298, 7 figures, New York, April, 1932.
- KANAI, Kiyoshi and SEZAWA, Katsutada, "Possibility of Free Oscillations of Strata Excited by Seismic Waves (Part IV)," See No. 1480 of this list.

- KANAI, Kiyoshi and SEZAWA, Katsutada, "Amplitudes of P- and S- waves at Different Focal Distances." See No. 1481 of this list.
1444. KOHLBACH, W., "Untersuchungen über die mikroseismische Bodenunruhe in Gr. Raum," *Schriften der Physikalisch-ökonomischen Gesellschaft zu Königsberg i. Pr.*, **67**, Heft 2, 20-64, 1931.
The above constitutes No. 12 of the *Mitteilungen der Geophysikalischen Warte Gr. Raum der Albertus-Universität, Königsberg i. Pr.*
1445. KÖHLER, R., "Eine neue Methode der Seismographenprüfung," *Zeitschrift für Geophysik*, **8**, Heft 1-2, 74-84, 6 figures, Braunschweig, 1932.
The above paper is the third in the series *Seismische Untersuchungen des Geophysikalischen Instituts in Göttingen*.
- KUNO, Hisashi and OTUKA, Yanosuke, "On Two Borings near Atami-mati, Idu Peninsula." See No. 1470 of this list.
1446. LACOSTE, J., "Dix années d'observations sur les mouvements microséismiques à Strasbourg," *Union Géodésique et Géophysique Internationale, Section de Séismologie, Travaux Scientifiques*, Fascicule 7, 16-35, 7 figures, Strasbourg, 1932.
The above is one of the communications presented at the Stockholm meeting of the International Union.
1447. LAKE, Philip, "Island Arcs and Mountain Building," *Geographical Journal*, **78**, No. 2, 149-160, 6 figures, London, August, 1931.
1448. LAMBERT, Walter D., "Note on the Theoretical Basis of Isostasy," *American Journal of Science*, Fifth Series, No. 124, **21**, 345-349, New Haven, April, 1931.
1449. LANDSBERG, H., "Bemerkungen zu Dispersionsuntersuchungen bei Erdbebenwellen," *Gerlands Beiträge zur Geophysik*, **35**, Heft 3-4, 370-373, 2 tables, bibliography, Leipzig, 1932.
H. L.
1450. LANE, Alfred C., "Pratt and Airy and Isostasy," *Science*, No. 1959, **76**, 53-54, New York, July 15, 1932.
The above is a comment on an article appearing in *Science News Letter*, to which reference is made in No. 1479 (2) of this list.
- LAWSON, A. C., "Insular Arcs, Foredeeps, and Geosynclinal Seas of the Asiatic Coast." See No. 1423 of this list.
1451. LECONTE, Joseph N. and YOUNGER, John E., "Stresses in a Vertical Elastic Rod When Subjected to a Harmonic Motion of One End," *Bulletin of the Seismological Society of America*, **22**, No. 1, 1-37, 16 figures, bibliography, Stanford, March, 1932.
1452. (1) LEE, A. W., "The Effect of Geological Structure upon Microseismic Disturbance," *Monthly Notices of the Royal Astronomical Society, Geophysical Supplement*, **3**, No. 2, 83-105, 6 figures, 7 tables, London, May, 1932.
1452. (2) LEE, A. W., "Microseismic Disturbance in Great Britain during 1930 January: a Comparison of the Records of Seven Observatories," *Ibid.*, **3**, No. 2, 105-116, 4 figures, 7 tables, London, May, 1932.
A. W. L.

1453. LEE, F. W., "Geophysical Abstracts," United States Bureau of Mines, No. 36 (Circular 6620), 410-439, April; No. 37 (Circular 6628), 440-464, May; No. 38 (Circular 6638), 465-492, June; No. 39 (Circular 6646), 493-527, July; Washington, 1932. F. W. L.
1454. LEE, F. W. and IRLAND, G. A., "Construction of Master Mechanical Oscillator for Testing Seismic Recorders and Other Allied Apparatus," United States Bureau of Mines, Technical Paper No. 518, 17 pages, Washington, 1932.
The above paper may be obtained through the Government Printing Office at the nominal price of 5 cents. R. R. B.
1455. LEHMANN, I. and PLETT, G., "Untersuchung der europäischen Registrierungen der Erdbeben vom 18 VII 1928, 24 X 1930, und 13 XI 1925," *Gerlands Beiträge zur Geophysik*, 36, Heft 1, 38-77, 7 figures, Leipzig, 1932.
1456. (1) MACELWANE, James B., S.J., "Long Waves," *Union Géodésique et Géophysique Internationale, Section de Séismologie, Travaux scientifiques*, Fascicule 7, 71-74, Strasbourg, 1932.
(2) MACELWANE, James B., S.J., "The Wood-Anderson Seismograph," *Ibid.*, Fascicule 7, 80-85, Strasbourg, 1932.
Translations into French follow immediately the English texts, the respective paginations being 75-79 and 86-92. The above papers were presented at the Stockholm meeting of the International Union, in the form of communications. J. B. M.
- MACKINDER, Sir Halford, "Problems of the Earth's Crust." See No. 1410 of this list.
The introduction to the discussion indicated was made by Sir Halford Mackinder, as reported on page 433 of the issue of the *Geographical Journal* concerned.
1457. MARTIN, H., "Selbsttätige Frequenzregulierung," *Physikalische Zeitschrift*, 33, Heft 6, 239-242, Leipzig, 1932.
1458. McDERMOTT, Eugene, "The Application of the Reflection Seismograph," *Physics*, 3, No. 1, 39-52, 9 figures, New York, July, 1932. R. R. B.
The illustrations include reproductions of five-instrument seismograms which are beautifully defined. The author states in conclusion that the instruments and technique of the reflection method have been improved so greatly as regards sensitivity and the exclusion of undesirable disturbances that there are few prospective oil-bearing areas where it is not now possible to use the method to advantage.
- MEINESZ, F. A. Vening, "Gravimetric Results in the Dutch East Indies in Connection with Mountain Folding Processes." See No. 1423 of this list.
1459. MONTANDON, Raoul, "La reconstruction de Tokio et Yokohama après le tremblement de terre de 1923," *Matériaux pour l'Étude des Calamités*, No. 26, 156-165, Geneva, 1931.
1460. MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, "Obituary Notice of Herbert Hall Turner," *Monthly Notices of the Royal Astronomical Society*, 91, No. 4, 322-334, London, February, 1931.
- MÜLLER, H. K. and GERECKE, F., "Messungen auf dem Rhôneletscher." See No. 1424 of this list.

1461. MUTO, Katsuhiko, "A Study of Displacements of Triangulation Points," *Bulletin of the Earthquake Research Institute*, **10**, Part 2, 384-392, 12 figures, Tokyo, June, 1932.
1462. NAKAMURA, Saemontaro, "An Approximate Solution of the True Motion of the Ground from a Record of a Pendulum Seismometer Subject to Friction at its Recording Point," *Proceedings of the Imperial Academy*, **8**, No. 5, 155-158, 2 tables, Tokyo, May, 1932.
1463. NASU, N. and YASUDA, Ch., "Seismometrical Report, Earthquake Research Institute, Tokyo, Japan: October 1-December 31, 1931," *Bulletin of the Earthquake Research Institute*, **10**, Part 2, 492-498, 8 figures, Tokyo, June, 1932.
1464. NAVARRO NEUMANN, Manuel Ma. S., S.J., "Le variographe Brébeuf." Reprint from *Atti della Pontificia Accademia delle Scienze Nuovi Lincei*, Anno LXXXV, Sessione V del 17 Aprile, 1932, 320-326, 4 figures, Rome, 1932.
1465. NISHIMURA, Genrokuro, "On the Expressions of the Deformation of a Semi-infinite Elastic Body Due to the Temperature Variation," *Bulletin of the Earthquake Research Institute*, **10**, Part 2, 335-351, Tokyo, June, 1932.
1466. NISHIMURA, Genrokuro and TAKAYAMA, Takeo, "On the Effect of a Spherical Cavity on the Equilibrium of the Gravitating Semi-infinite Elastic Solid," *Bulletin of the Earthquake Research Institute*, **10**, Part 2, 352-383, 18 figures, 17 tables, Tokyo, June, 1932.
1467. NISHIMURA, Genrokuro and TAKAYAMA, Takeo, "Some Experiments on Crack Formation in a Glass Plate," *Bulletin of the Earthquake Research Institute*, **10**, Part 2, 476-489, 27 figures, Tokyo, June, 1932.
1468. (1) OBSERVATORY, The, "Herbert Hall Turner," *The Observatory*, No. 677, **53**, 290-296, with portrait, London, October, 1930.
- (2) OBSERVATORY, The, "Earthquake Effects on Precision Clocks," *Ibid.*, No. 690, **54**, 303-304, London, November, 1931. See also No. 1478 of this list.
1469. (1) ODDONE, E., "Applications récentes de la séismologie en Italie," *Union Géodésique et Géophysique Internationale, Travaux Scientifiques*, Fascicule 7, 12-15, Strasbourg, 1932.
- (2) ODDONE, E., "Les mesures orthométriques et géodynamiques dans les travaux de séismologie," *Ibid.*, Fascicule 7, 41-42, Strasbourg, 1932.
- (3) ODDONE, E., "Sur quelques particularités dans l'enregistrement d'un pendule horizontal atteint par les ondes explosives," *Ibid.*, Fascicule 7, 57-60, 4 figures, Strasbourg, 1932.
- (4) ODDONE, E., "Sur les cartes séismiques mondiales," *Ibid.*, Fascicule 7, 69-70, Strasbourg, 1932.
- The above papers were presented at the Stockholm meeting of the International Union, in the form of communications.
1470. OTUKA, Yanosuke and KUNO, Hisashi, "On Two Borings Near Atami-mati, Idu Peninsula," *Bulletin of the Earthquake Research Institute*, **10**, Part 2, 472-475, 1 map, Tokyo, June, 1932.

1471. PAUWEN, L., "Étude d'un perpendiculaire pour la mesure précise des faibles inclinaisons," Université de Liège, Institut d'Astronomie et de Géodesie, No. 49, 249-263, Brussels, 1931.
- PICARD, L. and WILLIS, Bailey, "The Jordan Valley and Judean Highlands." See No. 1498 of this list.
- PLETT, G. and LEHMANN, I., "Untersuchung der europäischen Registrierungen der Erdbeben vom 18 VII 1928, 24 X 1930, und 13 XI 1925." See No. 1455 of this list.
- POOLE, J. H. J., "Problems of the Earth's Crust." See No. 1410 of this list.
1472. PREY, A., "Zur Frage nach dem isostatischen Massenausgleich in der Erdrinde," *Gerlands Beiträge zur Geophysik*, 36, Heft 2-3, 242-268, 2 figures, Leipzig, 1932.
1473. RADOSLAVOFF, Bogoumil, "Les tremblements de terre et les sources minérales et thermales en Bulgarie," *Matériaux pour l'Étude des Calamités*, No. 25, 14-28, 1 map, Geneva, 1931.
1474. RAMSPECK, A., "Eine Schüttelplatte zur Untersuchung von Seismographen," *Zeitschrift für Geophysik*, 8, Heft 1-2, 71-74, 4 figures, Braunschweig, 1932.
The above is the second number in the series *Seismische Untersuchungen des Geophysikalischen Instituts in Göttingen*.
- RICHTER, C. F., WOOD, H. O., and GUTENBERG, B., "The Earthquake in Santa Monica Bay, California, on August 30, 1930." See No. 1428 of this list.
1475. RODRÍGUEZ, José Galbis, "Catálogo Sísmico de la Zona Comprendida entre los Meridianos 5° E. y 20° W. de Greenwich y los Paralelos 45° y 25° N.," Dirección general del Instituto Geográfico, Catastral y de Estadística. Tomo I, 807 pages, numerous maps, Madrid, 1932.
The catalogue lists, for the geographical limits indicated, all earthquakes of which records are extant, from 1030 B.C. to December, 1928. It is an important contribution to seismological catalogues.
1476. ROHRBACH, Walter, "Über die Dispersion seismischer Oberflächenwellen," *Zeitschrift für Geophysik*, 8, Heft 3-4, 113-129, 14 figures, bibliography, Braunschweig, 1932.
The above paper constitutes the fourth number of the series *Seismische Untersuchungen des Geophysikalischen Instituts in Göttingen*.
1477. RUTHERFORD, H. M., "Reflection Methods in Seismic Prospecting," *American Institute of Mining and Metallurgical Engineers, Technical Publication*, No. 486, Class L, Geophysical Prospecting, No. 38, 21 pages, 11 figures, New York, July, 1932.
- SAUVE, A. and AGAMENNONE, G., "Accelerometro sismico a scala variabile." See No. 1402 of this list.
1478. SCHULER, M., "Störungen von Pendeluhren durch Erdbeben," *Astronomische Nachrichten*, No. 5827, 243, 302-303, 2 illustrations, Hamburg, October 9, 1931.
For further comment see No. 1468 (2) of this list. The author of the above paper reports that when experimenting at Göttingen with a free pendulum of improved design, an earthquake in England caused the amplitude of the swing to fall off perceptibly. It is estimated in the paper reported as No. 1468 (2) of this list, that the maximum movement of the earth at Göttingen, as caused by the English earthquake, was $\pm 35\mu$.

1479. (1) SCIENCE NEWS LETTER, "Little Earthquakes of Traffic Recorded by Tiny Seismograph," *Science News Letter*, No. 579, **21**, pg. 305, 1 illustration, Washington, May 14, 1932.

The article describes an accelerometer devised by Frank Neumann, Seismologist of the U.S. Coast and Geodetic Survey, primarily for the study of artificial vibrations such as traffic. The magnification and registration are respectively mechanical and optical. The damping is by means of castor oil. The sensitivity is such that the instrument will register the heart beats of a man leaning against a table on which it stands.

1479. (2) SCIENCE NEWS LETTER, "How Heavy is a Mountain?" *Ibid.*, No. 580, **21**, 326-328, Washington, May 21, 1932.

This article is a summary of the papers written by G. B. Airy and John Henry Pratt, with regard to investigations carried out in India, presenting their respective theories regarding the distribution of mass in the crust of the earth. Comment on this article is made by Alfred C. Lane, in *Science*, No. 1959, **76**, 53-54, New York, July 15, 1932.

— SELLARDS, E. H., "Texas Earthquake of August 16, 1931." See No. 1423 of this list.

1480. SEZAWA, Katsutada and KANAI, Kiyoshi, "Possibility of Free Oscillations of Strata Excited by Seismic Waves (Part IV)," *Bulletin of the the Earthquake Research Institute*, **10**, Part 2, 273-298, 27 figures, Tokyo, June, 1932.

1481. SEZAWA, Katsutada and KANAI, Kiyoshi, "Amplitudes of P- and S-waves at Different Focal Distances," *Bulletin of the Earthquake Research Institute*, **10**, Part 2, 299-334, 13 figures, Tokyo, June, 1932.

1482. SIGNORE, Francesco, "Présentation de deux diagrammes sismiques obtenus à l'Observatoire Royal du Vésuve pendant l'éruption de Vésuve de juin 1929," *Union Géodésique et Géophysique Internationale, Section de Séismologie, Travaux Scientifiques*, Fascicule 7, 61-64, 2 figures, Strasbourg, 1932.

— SIMPSON, G. C., "Problems of the Earth's Crust." See No. 1410 of this list.

1483. SMITH, C. C., "Standard Time and Time Zones in Canada," *Journal of the Royal Astronomical Society of Canada*, No. 211, **26**, 49-77, 2 maps, tables, Toronto, February, 1932.

1484. STECHSCHULTE, V. C., S.J., "The Japanese Earthquake of March 29, 1928, and the problem of Depth of Focus," *Bulletin of the Seismological Society of America*, **22**, No. 2, 81-137, 16 figures, numerous tables, bibliography, Stanford, June, 1932.

The above paper presents the results of the author's doctorate dissertation at the University of California.

1485. STREET, R. O., "The Tides in a Hemispherical Ocean Bounded by a Continental Shelf," *Monthly Notices of the Royal Astronomical Society, Geophysical Supplement*, **3**, No. 2, 117-124, London, May, 1932.

1486. SUYEHIRO, Kyoji, "Horizontal Displacements of the Primary and Secondary Triangulation Points in Idu Earthquake Districts," *Bulletin of the Earthquake Research Institute*, **10**, Part 1, 261-263, 2 plates, Tokyo, March, 1932.

1487. SUYEHIRO, Kyoji, "Engineering Seismology—Notes on American Lectures," *Proceedings of the American Society of Civil Engineers*, 58, No. 4, 110 pages, 65 illustrations, New York, 1932.

The above presents the lecture notes of Dr. Kyoji Suyehiro, who visited the United States at the invitation of the American Society of Civil Engineers. The notes are preceded by an introduction written by John R. Freeman, Honorary Member and Past-President of the Society. Three lectures are outlined, on the following topics, respectively:

1. History of the Development of Seismology in Japan.

2. Engineering Seismology.

3. Vibrations of Buildings in an Earthquake. The booklet containing the notes is Part 2 of the issue of the *Proceedings* for May, 1932. It is priced at \$1. C. R. C.

1488. SUYEHIRO, Kyoji. Professor Kyoji Suyehiro died April 9, 1932, after a short illness. An obituary notice in English appears in the *Proceedings of the Imperial Academy*, 8, No. 5, pg. xv, Tokyo, May, 1932. A notice in French, accompanied by an excellent likeness of the deceased, is given in the *Bulletin of the Earthquake Research Institute*, 10, Part 2, pp. v-vi, Tokyo, June, 1932.

— TAKAYAMA, Takeo and NISHIMURA, Genrokuro, "On the Effect of a Spherical Cavity on the Equilibrium of the Gravitating Semi-infinite Elastic Solid." See No. 1466 of this list.

— TAKAYAMA, Takeo and NISHIMURA, Genrokuro, "Some Experiments on Crack Formation in a Glass Plate." See No. 1467 of this list.

1489. TERADA, Torahiko, "Earthquakes and Fisheries," *Proceedings of the Imperial Academy*, 8, No. 3, 83-86, Tokyo, March, 1932. R. R. B.

A paper entitled "On Some Probable Influence of Earthquakes upon Fisheries," appeared in the *Bulletin of the Earthquake Research Institute*, 10, Part 2, 393-401, 8 figures, 2 tables, Tokyo, June, 1932.

1490. TERADA, Torahiko, "Change of Depth in the Bay of Tosa," *Proceedings of the Imperial Academy*, 8, No. 5, 159-161, 3 figures, Tokyo, May, 1932.

1491. TERADA, Torahiko, "Deformation of the Rhombic Base Lines at Mitaka and Earthquake Frequency in Kwanto Districts," *Bulletin of the Earthquake Research Institute*, 10, Part 2, 402-410, 3 figures, 3 tables, Tokyo, June, 1932.

1492. TSUBOI, Chuji, "Investigation on the Deformation of the Earth's Crust in the Tango District Connected with the Tango Earthquake of 1927 (Part 4)," *Bulletin of the Earthquake Research Institute*, 10, Part 2, 411-434, 12 figures, Tokyo, June, 1932.

1493. TSUBOI, Chuji, "Investigation on the Deformation of the Earth's Crust in Idu Peninsula Connected with the Idu Earthquake of Nov. 26, 1930," *Bulletin of the Earthquake Research Institute*, 10, Part 2, 435-448, 11 figures, Tokyo, June, 1932.

1494. VISSER, S. W., "Corrections of Batavia Times Tables," *Union Géodésique et Géophysique Internationale, Section de Séismologie, Travaux Scientifiques*, Fascicule 7, 36-40, 3 figures, Strasbourg, 1932.

The above is one of the communications presented at the Stockholm meeting of the International Union.

1495. (1) VON KLEBELSBERG, R., "Das Nordalpenbeben vom 8. Oktober 1930," *Mitteilungen des Deutschen und Österreichischen Alpenvereins*, No. 12, 251-254, Innsbruck and Vienna, 1930. R. Z.

1495. (2) VON KLEBELSBERG, R., "Das Erdbeben von Namlos," *Innsbrucker Nachrichten*, No. 263, 2 pages, November 15, 1930. R. Z.

— WANTLAND, Dart and HEILAND, C. A., "A Selected List of Books and References on Geophysical Prospecting." See No. 1430 of this list.

— WASHBURN, C. W., "Doubt Concerning Tension in the Earth's Crust." See No. 1423 of this list.

1496. WEISHAUP, Josef, "Messung der Eigenperiode, der Dämpfung und des Elastizitätsmoduls von Mauern," *Zeitschrift für Technische Physik*, 13, No. 6, 286-288, München, 1932.

The above is one of the *Mitteilungen aus dem Laboratorium für technische Physik der Technischen Hochschule, München*. The table of contents is as follows:

Versuchsmethoden:

1. Die photographische Registriervorrichtung
2. Bestimmung der Eigenfrequenz von Wänden
3. Berechnung des Dekrements
4. Berechnung des Elastizitätsmoduls
5. Einfluss der Luft auf die Schwingungszahl der Mauern
6. Das Versuchshaus als Helmholtz'scher Resonator Zusammenfassung. J.B.M.

1497. (1) WENNER, Frank, "The Damping of Seismometric Instruments," *Union Géodésique et Géophysique Internationale, Section de Séismologie, Travaux Scientifiques*, Fascicule 7, 43-53, Strasbourg, 1932.

1497. (2) WENNER, Frank, "A New Seismometer Equipped for Electromagnetic Damping and Electromagnetic and Optical Magnification," *Ibid.*, Fascicule 7, 65-68, 6 figures, Strasbourg, 1932.

The above papers were presented at the Stockholm meeting of the International Union, in the form of communications. The second is a résumé in French of the paper previously reported as No. 395 of these lists.

1498. WILLIS, Bailey and PICARD, L., "The Jordan Valley and Judean Highlands," *Geological Magazine*, No. 813, 70, 97-107, 3 figures, London, March, 1932.

A discussion of the nature of the faults of this region, presented from two points of view.

1499. WILSON, Sir Arnold T., "Earthquakes in Persia," *Bulletin of the School of Oriental Studies*, 6, Part 1, 103-131, map, tabulation, bibliography, London, 1930.

1500. WOOD, H. O.,

1. "On a Piezo-electrical Accelerograph," *Bulletin of the Seismological Society of America*, 11, No. 1, 15-57, 9 figures, Stanford, March, 1921.

2. "Some Considerations Touching on Isostasy," *Bulletin of the Geological Society of America*, 33, 303-316, 1 figure, Washington, June 30, 1922.

3. "A Torsion Seismometer," *Journal of the Optical Society of America and Review of Scientific Instruments*, 8, No. 6, 817-822, June, 1924.

(In collaboration with J. A. Anderson. See also No. 204, *Bibliography of Seismology, Old Series*.)

4. "The Practical Lesson of the Santa Barbara Earthquake," *Allied Architects Association Bulletin*, 2 pages in reprint, August 1, 1925. H. O. W.

- WOOD, H. O., BUWALDA, J. F., and GUTENBERG, B., "Experiments Testing Seismographic Methods for Determining Crustal Structure." See No. 1429 of this list.
- WOOD, H. O., GUTENBERG, B., and RICHTER, C. F., "The Earthquake in Santa Monica Bay, California, on August 30, 1930." See No. 1428 of this list.
- YASUDA, Ch. and NASU, N., "Seismometrical Report, Earthquake Research Institute, Tokyo, Japan: October 1-December 31, 1931." See No. 1463 of this list.
- YOUNGER, John E. and LECONTE, Joseph N., "Stresses in a Vertical Elastic Rod When Subjected to a Harmonic Motion of One End." See No. 1451 of this list.

LIST OF COLLABORATORS

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

- | | |
|-------------------------------------------------------------------------------------------------------------------------------|------------|
| Agamennone, G.,
Real Osservatorio Geofisico,
Rocca di Papa, Rome, Italy. | G.A. |
| Beanfield, R. McC.,
608 Chamber of Commerce Building,
Los Angeles, Cal., U.S.A. | R. McC. B. |
| Bodle, Ralph R.,
Editor, <i>Earthquake Notes</i> ,
United States Coast and Geodetic Survey,
Washington, D.C., U.S.A. | R.R.B. |
| Coulomb, J.,
Institut de Physique du Globe,
Puy-de-Dôme, France. | J.C. |
| Coutlee, C. R.,
Public Works Department,
Ottawa, Canada. | C.R.C. |
| Field, Richard M.,
Department of Geology,
Princeton University, Princeton, N.J., U.S.A. | R.M.F. |
| Gherardi, W. R.,
Hydrographic Office, Washington, D.C., U.S.A. | W.R.G. |
| Imamura, Akitune,
Tokyo Imperial University,
Tokyo, Japan. | A.I. |
| Landsberg, H.,
Universitätsinstitut für Meteorologie und Geophysik,
Frankfurt a.M., Germany. | H.L. |
| Lee, A. W.,
Kew Observatory, Richmond, Surrey, England. | A.W.L. |
| Lee, F. W.,
Editor, <i>Geophysical Abstracts</i> ,
United States Department of Mines,
Washington, D.C., U.S.A. | F.W.L. |

- Macelwane, James B., S.J.,
Saint Louis University,
Saint Louis, Mo., U.S.A. J.B.M.
- Mitchell, A. S.,
13 Grey Street, Wellington, New Zealand. A.S.M.
- Wood, H. O.,
Carnegie Institution of Washington,
220 San Rafael Ave.,
Pasadena, Cal., U.S.A. H.O.W.
- Zaunick, Rudolph,
Editor, Mitteilungen zur
Geschichte der Medizin, der
Naturwissenschaften und der
Technik, Dresden A-16, Germany. R.Z.