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BY

ERNEST A. HODGSON

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1913

Bibliography of Seismology

October, November, December, 1936

3267. ADAMS, Frank D., "An Experimental Contribution to the Question of the Depth of the Zone of Flow in the Earth's Crust," *Jour. Geol.*, Vol. 20, No. 2, 97-118, 2 fig., 2 pl., 4 tab., Chicago, Feb.-Mar., 1912.

3268. AGAMENNONE, G.,

(1) "Il periodo sismico nel distretto di Bolsena dell'ottobre 1917," *Bol. Soc. Sis. Ital.*, Vol. 33, Fasc. 5-6, 195-199, 1 map, bib., Rome, 1935. G.A.

(2) "Confronto delle profondità ipocentrali di due recenti terremoti consimili," *Rend. R. Accad. Naz. Lincei, Cl. Sc.*, Vol. 23, Semi-fasc. 11, 859-864, 2 tab, bib., Rome, 1936. G.A.

(3) "La frana di Marino registrata nel R. Osservatorio Geodinamico di Rocca di Papa," *Bol. Soc. Sis. Ital.*, Vol. 34, Fasc. 3-4, 101-115, 3 fig., bib., Rome, 1936. G.A.

— AGAMENNONE, G., and SOMVILLE, O., "Eugene Lagrange" (an obituary). See No. 3355 of this list.

3269. AMERICAN GEOPHYSICAL UNION, "Transactions of the American Geophysical Union, Seventeenth Annual Meeting, April 30, May 1, 2, 1936, Washington, D.C., and of the West Coast Meeting, January 31 and February 1, 1936, Pasadena, California: Part I, Reports and Papers," 259 pp., num. fig., tab., etc., Washington, July, 1936.

The report of the Section of Seismology appears on pages 75-116. For titles of papers and their position in the report see under the following author names: Slichter, Hodgson, Barton, Eickelberg, Stechschulte, Ruge, Gebhardt, Macqueen, Landsberg, Heck, Rutherford, Sohon, Blake, Delaney, Collins, Lynch, Merritt, Bodle, Thom, Neumann, and Joerg.

On page 32 appears a resolution on the death of Arthur J. Weed. Copies of this resolution were sent to Mr. Weed's family and to the President of the University of Virginia.

Many papers in sections other than that of seismology are of interest to seismologists. A complete list of titles cannot be given here.

— BAIN, George W., "Spontaneous Rock Expansion" (abstract). See No. 3289 of this list.

3270. BARTELS, J.,

(1) "Geophysical Time Functions," *Preuss. Akad. Wiss. Berlin, Ber.*, Bd. 30, 504-522, 1935.

(2) "Geophysical Cycles," *Jour. Wash. Acad. Sc.*, Vol. 26, No. 5, 195-199, bib., Washington, May 15, 1936.

For abstracts of these two important papers see Nos. 3107, 3108, p. 713, of *Sc. Abs. A*, Vol. 39, No. 463, London, July 25, 1936.

- BARTON, Donald C., "Current Geophysical Activity in Texas and Louisiana" (abstract).
See pp. 76-77 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3271. BELLAMY, Ethel F., "Index Catalogue of Epicentres for 1913-1930: A Geographical Index to the International Seismological Summary," pp. iii+36, 3 plates, Newport, 1936.

A review appears in *Nature*, No. 3496, Vol. 138, p. 766, London, Oct. 31, 1936.

- BENIOFF, H., "Preliminary Report on Four-unit Portable Seismograph." See No. 3303 of this list.

3272. BILLINGS, L. G., "Some Personal Experiences with Earthquakes," *Nat. Geog. Mag.*, Vol. 27, No. 1, 57-71, Washington, Jan., 1915.

An account of experiences in various earthquakes, but particularly the Peruvian shock of 1868, at Arica. An excellent description of the destruction caused by a *tsunami* or "tidal-wave".

- BLAKE, A., "The Determination of Ground Motion from Seismograms" (abstract).
See p. 102 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3273. BLOCH, A., "Graphical Construction for a Refracted Ray," *J.S.I.*, Vol. 13, No. 9, 302-303, 3 fig., London, Sept., 1936.

- BLUME, J. A., and JACOBSEN, L. S., "The Building and Ground Vibrator." See No. 3303 of this list.

- BODLE, Ralph R., "A Discussion of Some Problems in Epicenter Work." See pp. 104-108 (5 fig.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3274. BOIS, Charles,

(1) "Sur les séismes à foyer anormalement profond," *C.R.*, T. 203, No. 1, 101-103, Paris, July 6, 1936.

(2) "Sur les séismes à foyer profond," *Ibid.*, No. 4, 341-343, bib., July 27, 1936.

3275. BOWIE, William, "Geodetic Operations in the United States, January 1, 1933, to December 31, 1935," *U.S.C.G.S., Spec. Pub.*, No. 207, 25 pp., Washington, 1936.

On page 10 appears a report on the special geodetic work in California.

3276. BRIDGMAN, P. W., "Shearing Phenomena at High Pressure of Possible Importance for Geology," *Jour. Geol.*, Vol. 44, No. 6, 653-669, 3 fig., Chicago, Aug.-Sept., 1936.

The paper describes the various phenomena of plastic flow under shearing stress at confining pressures up to 50,000 kg/cm².

- BROWN, G. A., HAZEN, H. L., and JAEGER, J. J., "An Automatic Curve Follower." See No. 3301 of this list.

3277. BRYAN, Frank, "Evidence of Recent Movements Along Faults of Balcones System in Central Texas," *Bul. Amer. Ass. Pet. Geol.*, Vol. 20, No. 10, 1357-1371, 4 fig., Tulsa, Oct., 1936.

Although the word *recent* is to be taken with the usual geological meaning, the article refers also to some earthquakes which have occurred in this region within the past few years and which indicate continued movement along some of the faults.

3278. BULLARD, E. C., "Gravity Measurements in East Africa," *Phil. Trans. R. Soc.*, Ser. A, No. 757, Vol. 235, 445-531, 28 pl., London, 1936.

The paper is sold for sixteen shillings by Harrison and Sons, Ltd., 44-47 St. Martin's Lane, London. The second part of the paper, dealing with the interpretation of the results, discusses the variations in gravity over the rift valleys and includes a section on "The Thickness of the Crust."

3279. BURROWS, L. A., "Relation Between Firing Current and Performance in Seismograph Caps," *Geophysics*, Vol. 1, No. 2, 219-227, 2 fig., 2 tab., Tulsa, July, 1936.

- BUWALDA, J. P., and GUTENBERG, B., "Seismic Reflection Profile across Los Angeles Basin" (abstract). See No. 3289 of this list.

3280. BYCHOVSKIJ, V., "The Scales of Seismic Intensity," *Pub. Inst. Séis., Acad. Sc. URSS.*, No. 73, 42 pp., 1 fig., bib., Moscow-Leningrad, 1936.

The paper is in Russian with an abstract in English. The author lists a total of 41 earthquake scales of intensity with their dates of publication. N.V.R.

- BYERLY, P., and DYK, H., "The Questionnaire Program for Collecting Earthquake Data." See No. 3303 of this list.

3281. CALOI, P., "Due nuovi tipi di onde sismiche alla luce di una teoria del Somigliana," *Rend. R. Accad. Naz. Lincei, Cl. Sc.*, Vol. 23, Ser. 6, Semi-fasc. 7, 507-511, Rome, 1936. P.C.

- CARDER, D. S., and JACOBSEN, L. S., "Vibration Observations." See No. 3303 of this list.

- CHAMBERLIN, Rollin T., "The Snellius Expedition in the Eastern Part of the Netherlands East Indies 1929-1930, Vol. V: Geological Results, Part I—Geological Interpretation of the Bathymetrical Results." See No. 3320 of this list.

- COLLINS, Mary P., "Local Earthquakes in New England, 1934-1935" (abstract). See p. 103 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

- COULOMB, J., and GRENET, G., "Construction d'un séismographe d'essai." See No. 3293 of this list.

- Crary, A. P., Rutherford, H. M., and Ewing, Maurice, "Geophysical Investigations in the Emerged and Submerged Atlantic Coastal Plain: Part I—Methods and Results" (abstract). See No. 3289 of this list. Part II of this paper is listed under Miller.

- DALY, Reginald A., "Origin of Submarine 'Canyons'" (abstract). See No. 3289 of this list.

3282. DAVISON, Charles, "The Formosa Earthquake of April 21, 1935," *Nature*, No. 3487, Vol. 138, p. 353, London, Aug. 29, 1936.

The above short paper is a review of Supplementary Vol. 3 of the *Bulletin of the Earthquake Research Institute*, which deals entirely with the subject indicated. It is an extraordinarily adequate and satisfying review of an important publication (in Japanese) on the serious earthquake in Formosa.

- DELANEY, John P., S.J., "Seismographic Tilt-measurements at Buffalo" (abstract). See pp. 102-103 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3283. DINGLE, Herbert, "Cosmology—the Physical Universe," *Jour. Wash. Acad. Sc.*, Vol. 26, No. 5, 183-195, Washington, May 15, 1936.

3284. DISIN. The following papers have appeared in the above publication published in Tokyo. All are in the Japanese language. The two numbers in brackets after each entry indicate respectively the page and the serial number of the English abstract of the paper concerned as appearing in the abstracts section of *Jap. Jour. Ast. Geoph.*, Vol. 13, No. 3, Tokyo, 1936.

- (1) SUMITANI, Keisuke, "Earthquakes in Kagawa Prefecture," Vol. 5, 771-784, 5 fig., 1933. (36, 168).
- (2) KATO, Yosio, "Sur la relation entre le changement du magnétisme terrestre et la sismique et volcanique activité," Vol. 7, 469-472, 1 fig., 2 tab., 1935. (37, 175).
- (3) INOUE, Win, "Simple Instruments Indicating Seismic Intensity," Vol. 5, 750-759, 1933. (39, 189).
- (4) KISHINOUE, Fuyuhiko, "An Apparatus Indicating the Direction of the First Motion of Earthquakes," Vol. 5, 699-703, 2 fig., 1933. (40, 190).
- (5) HUTIDA, Takato, "Sur l'équipement récemment fabriqué du relative mesurage de la gravité employant télégraphie sans fil," Vol. 7, 565-577, 613-629, 5 fig., 1935. (40, 191).
- (6) TAKAHASHI, Ryutaro, "Binaural Receivers Used to Locate a Drilling Place in a Tunnel," Vol. 5, 561-572, 5 fig., 1933. (40, 192).
- (7) SUZUKI, Takeo, "Propagation of Sound Generated by an Explosion of a Powder Magazine at Hamamatu on June 7, 1933," Vol. 5, 497-519, 4 fig., 2 tab., 1933. (44, 213).
- (8) KISHINOUE, Fuyuhiko, "Some Notes on the Sanriku Tsunami in 1933," Vol. 5, 760-763, 1933. (50, 230).

- DYK, H., and BYERLY, P., "The Questionnaire Program for Collecting Earthquake Data." See No. 3303 of this list.

3285. EARTHQUAKE RESEARCH INSTITUTE, TOKYO IMPERIAL UNIVERSITY. Supplementary Vol. 3, of the *Bulletin of the Earthquake Research Institute*, is devoted to a series of papers and reports dealing with the Formosa earthquake of 1935. The entire publication is in Japanese with the exception of the abstracts of the papers which are in English. The papers are listed in this issue of the *Bibliography* under the respective author names: Hagiwara, Honma, Inomata, Kawasima, Kawasumi, Miyabe, Nasu, Otuka, Saita, Suzuki, and Takahasi.

The reports are entirely in Japanese except for a series of English titles as follows:—

- (1) "Seismometrical Report on the Formosa Earthquake of April 21, 1935, Observed at Hongo, Tokyo."
- (2) "Field Investigations."
- (3) "Statistics of Damages."
- (4) "Results of the Re-triangulation and Re-levelling in the Region Affected by the Earthquake."
- (5) "The After-shocks of August 17, 1935."
- (6) "Maps and Photographs."

The maps and photographs are exceptionally well reproduced. There are 21 maps in addition to an index map, and 242 photographs. The titles descriptive of the photographs are in English as well as in Japanese.

— EICKELBERG, E. W.,

- (1) "Progress-report in Seismology for the United States Coast and Geodetic Survey." See pp. 77-80, (1 fig., 1 tab.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.
- (2) "Review of Earthquakes for the Past Year," *Ibid.*, pp. 93-95 (1 fig.)

3286. ELECTRONICS, "Depth Sounding by Radio," *Electronics*, Vol. 9, No. 10, 20-21, 5 fig., New York, Oct., 1936.

The article describes the methods used by the U.S. Coast and Geodetic Survey to measure depth. The source of sound used is an explosion. Recording is done on receivers placed sometimes as much as 45 miles distant from the blast.

3287. ELIEL, Leon T., and MEYER, William H., Jr., "Aerial Geologizing," *A.I.M.M.E., Tech. Pub.*, No. 756, 27 pp., New York, 1936.

The pamphlet presents introductory remarks by Theodore Marvin and two papers on the subject indicated, together with the discussion which followed. The papers by the two authors respectively were as follows: "Aerial Reconnaissance and Contour Mapping in Mining," and "Development of Aerial Photographic Equipment."

3288. *ENGINEERING NEWS-RECORD*. Volume 117 of the above periodical (New York, 1936) contains the following short items of interest to seismologists:

- (1) "Cisterns Store Water for Fires Where Earthquakes Menace Mains," No. 7, 223-224, Aug. 13.

San Francisco has built a system of underground storages distributed throughout the city. Cisterns are located at street intersections. They have a capacity of 75,000 gal. and cost \$6,000. Pipe connections are omitted for safety.

- (2) "Unsafe Dam Design," No. 19, p. 656, Nov. 5.

See also the article in the same issue, pp. 644-647, by Fred D. Pyle, entitled, "Hodges Dam Strengthened." The editorial and the article refer briefly to the need for special precautions in the design of dams in seismic regions.

- (3) "Earthquakes," No. 13, 452-453, Sept. 24.

A review of two publications by N. H. Heck listed in this issue of the *Bibliography* as Nos. 3302 (2) and 3303.

- (4) "Simpler Seismic Analysis," No. 17, 590-591, Oct. 22.

Refers to the need for simple and effective design procedure to ensure safe construction in earthquake regions.

— EWING, Maurice, CRARY, A. P., and RUTHERFORD, H. M., "Geophysical Investigations in the Emerged and Submerged Atlantic Coastal Plain: Part I—Methods and Results" (abstract). See No. 3289 of this list. Part II of this paper is listed under Miller.

— FENNEMAN, Nevin M., "Presentation Address" (Presentation of the Penrose Medal to Reginald A. Daly). See No. 3289 of this list.

— FIELD, R. M., "Role of Geophysics in Submarine Geology" (abstract). See No. 3289 of this list.

— GEBHARDT, R. E., "Improvements in Strong-motion Seismographic Equipment." See pp. 84-85 (3 fig.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3289. *GEOLOGICAL SOCIETY OF AMERICA*, "Proceedings of the Geological Society of America for 1935," 483 pp., New York, 1936.

The first 136 pages are devoted to a report on the New York meeting of Dec. 26-28, 1935. Abstracts of papers of interest to seismologists are noted in the present issue of the *Bibliography* under the names of authors as follows: Bain, Daly, Ewing (Crary and Rutherford), Field, Goldthwait, Griggs, Leith and Sharpe, Miller, Shepard, Stetson, Willis.

Pages 323-354 present the *Proceedings of the Stanford Meeting of the Cordilleran Section, Apr. 12-13, 1935*. Abstracts of papers of interest to seismologists are noted in this list under the authors' names as follows: Gutenberg and Buwalda, Jenkins, Willis.

The *Proceedings of a Joint Session of Section E of the A.A.A.S. and the Geological Society of America at Saint Louis, Dec. 30-31, 1935*, are reported on pages 433-442. Papers of interest to seismologists, represented in the report by abstracts, are indicated in this list by the names of authors as follows: Heck and McComb, Hodgson.

On pages 48-53 appears on account of the presentation of the Penrose Medal to R. A. Daly. The presentation address was made by Nervin M. Fenneman. The address and the reply of Prof. Daly are reported in full.

An unusually large number of obituaries appear in the section devoted to them (pp. 157-322). One of these is the memorial to Bundjiro Koto (pp. 263-272), by T. A. Jaggar.

3290. GERMANT, A., "Compressional Waves in Media with Complex Viscosity," *Physics*, Vol. 6, No. 11, 363-365, Lancaster, Nov., 1935.

3291. GLENNIE, E. A., "Gravity Anomalies in the United States," *Jour. Geol.*, Vol. 44, No. 7, 765-782, 4 fig., Chicago, Oct.-Nov., 1936.

— GOLDTHWAIT, James Walter, "Stability of Land and Sea at Salem, Massachusetts" (abstract). See No. 3289 of this list.

3292. GREENSPAN, Reuben, "Science and Earthquakes," *Wynn's Astrology Magazine*, Vol. 6, No. 2, 2-3, East Stroudsburg, Pa., Dec., 1935. J.D.

The publishers announce: "*Predicting Earthquakes* is the subject of Reuben Greenspan's first book. Mr. Greenspan has amazed scientists, newspaper editors and the public with the accuracy of his published predictions of when and where major earthquakes would occur. This book, published here for the first time, will include the following: Planets and gravitation, Application of astronomy to geology, Hypothesis of predicting an earthquake, Psychology of earthquakes and their effect on the human race."

It would be difficult to find a more suitable place to publish this book. E.A.H.

3293. GRENET, G., and COULOMB, J., "Construction d'un séismographe d'essai," *Bul. Inst. et Obs. Phys. Gl., Puy-de-Dôme*, No. 8, 6 pp. in reprint, 2 fig., 1 pl., Puy-de-Dôme, 1936. J.C.

3294. GRIGGS, David T., "Deformation of Rocks under High Confining Pressures," *Jour. Geol.*, Vol. 44, No. 5, 541-577, 14 fig., bib., Chicago, July-Aug., 1936.

An important contribution to this subject of so much interest to seismologists—as to all geophysicists.

— GRIGGS, David T., "Strength of Rocks under High Pressure" (abstract). See No. 3289 of this list.

3295. GRIME, G., "The Determination of Young's Modulus for Building Materials by a Vibration Method," *Phil. Mag.*, No. 132, Vol. 20, 304-310, London, Aug., 1935.

3296. GUTENBERG, B.,

(1) "The Amplitudes of Waves to be Expected in Seismic Prospecting," *Geophysics*, Vol. 1, No. 2, 252-256, 1 fig., bib., Tulsa, July, 1936.

(2) "Structure of the Earth's Crust and the Spreading of the Continents," *Bul. Geol. Soc. Am.*, Vol. 47, No. 10, 1587-1610, 2 fig., bib., New York, Oct. 31, 1936.

— GUTENBERG, B., "Periods of the Ground in Southern California Earthquakes." See No. 3303 of this list.

— GUTENBERG, B., and BUWALDA, J. P., "Seismic Reflection Profile across Los Angeles Basin" (abstract). See No. 3289 of this list.

3297. HAGIWARA, Takahiro, "Observation of Changes in Earth Potential at Syukkoko and Kinsui, Formosa" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 87-92, 7 fig., Tokyo, Mar., 1936.

3298. HAGIWARA, Takahiro, "Report on the Work of the Earthquake Research Institute, Tokyo Imperial University, During the Years 1933-1934," *Ger. Bei.*, Bd. 48, Heft 1, 94-108, 9 fig., bib., Leipzig, 1936.

The above is the seventh report of the series, the other six having been listed under the name of C. Tsuboi.

3299. HAYES, R. C.,

(1) "Normal and Deep Earthquakes in the Southwest Pacific," *Dom. Obs. (N.Z.) Bul.*, No. 109, 691-701, 2 fig., 6 tab., bib., Wellington, 1936.

(2) "Earthquakes and Atmospheric Pressure: The Influence of Pressure and Pressure Changes on the Occurrence of New Zealand Earthquakes," *Ibid.*, No. 110, 713-716, 2 tab., bib., 1936. R.C.H.

3300. HAYES, R. C., "Reliability of Seismograph Stations," *Nature*, No. 3489, Vol. 138, 463-464, London, Sept. 12, 1936.

A comment on the recent paper by Harold Jeffreys on the same subject, reported as No. 3188 (3) of these lists. Dr. Jeffreys replies to the comment in a short note immediately following. He defends his deductions in some measure, but admits the weakness of the data on which his original far-reaching conclusions were drawn.

The data given by the International Seismological Summary serve many highly-useful purposes but, in the opinion of the undersigned, they do not lend themselves to analyses such as the one made by Jeffreys. E.A.H.

3301. HAZEN, H. L., JAEGER, J. J., and BROWN, G. S., "An Automatic Curve Follower," *R.S.I.*, Vol. 7, No. 9, 353-357, Lancaster, Sept., 1936.

3302. HECK, N. H.,

- (1) "Microseisms and Meteorology," *Geog. Rev.*, Vol. 26, No. 3, p. 508, New York, July, 1936.

A brief discussion of a paper by Donald C. Bradford, published in the *Bul. S.S.A.* and reported in these lists as No. 3052 (2).

- (2) "Earthquakes," Princeton University Press, 222 pp., 88 fig. Price \$3.50. Princeton, 1936.

This book, by the Chief of the Division of Terrestrial Magnetism and Seismology, of the U.S. Coast and Geodetic Survey, is written for the benefit of the lay reader. The author is particularly well fitted to write the book, bringing to it not only his wide experience in the operation of his own organization in the United States and its dependencies, but also the knowledge he has gained through his international activities. The book is absolutely free from padding—every sentence conveys its part of the information.

In addition to much general descriptive material about earthquakes in general, there are detailed accounts of many particular cases. These illustrate the general theory of the nature and cause of earthquakes which the author gives.

It is but natural, as is stated in the preface, that the illustrations and descriptions should show evidences of the author's viewpoint—the United States.

The book was chosen as the Scientific Book of the Month. A careful perusal of its pages will afford an excellent general idea of the scope and nature of the study of earthquakes. E.A.H.

3303. HECK, N. H., *et al.*, "Earthquake Investigations in California, 1934-1935," *U.S.C.G.S., Spec. Pub.*, No. 201, 231 pp., 124 fig., num. tab., Washington, 1936.

This report may be obtained from the Supt. of Documents, Washington, D.C., for thirty-five cents. The subjects dealt with are as follows:

Preface. HECK, N. H.

Chap. 1. ULRICH, F. P., "Field Parties and Problems."

Chap. 2. HECK, N. H., McCOMB, H. E., and ULRICH, F. P., "Strong-motion Program and Tiltmeters."

Chap. 3. NEUMANN, F., "The Analysis of Records."

Chap. 4. BYERLY, P., and DYK, H., "The Questionnaire Program for Collecting Earthquake Data."

Chap. 5. CARDER, D. S., and JACOBSEN, L. S., "Vibration Observations."

Chap. 6. McLEAN, R. S., and MOORE, W. W., "Vibration Studies."

Chap. 7. BLUME, J. A., and JACOBSEN, L. S., "The Building and Ground Vibrator."

Chap. 8. MARTEL, R. R., "A Report on Earthquake Damage to Type III Buildings in Long Beach."

Chap. 9. GUTENBERG, B., "Periods of the Ground in Southern California Earthquakes."

Chap. 10. BENIOFF, H., "Preliminary Report on Four-unit Portable Seismograph."

Chap. 11. REYNOLDS, W. F., and RAPPEYE, H. S., "Geodetic Work in Earthquake Regions in California."

— HECK, N. H., "Relation of Earthquake-belts of the Pacific and Indian Oceans to Submarine Topography." See pp. 92-93 (1 fig.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.

— HECK, N. H., and McCOMB, H. E., "Some Observations on Recent Progress in Seismology" (abstract). See No. 3289 of this list.

3304. HEILAND, C. A.,

- (1) "Geophysical Mapping from the Air: "Its Possibilities and Advantages," *Eng. Min. Jour.*, Vol. 136, No. 12, 609-610, New York, Dec., 1935.

Should the present trend toward accuracy rather than toward speed, in making land observations, so change that more rapid work would become desirable, it should not be hard to modify magnetic, gravimetric, electro-magnetic, inductive, and radio-active methods for use in a moving vehicle—the airplane among others. But this has not been attempted save in a single instance. C.A.H.

- (2) "Note on Reflections from Steeply Dipping Beds," *Geophysics*, Vol. 1, No. 2, 257-270, 11 fig., Tulsa, July, 1936.

3305. HEISKANEN, W., "The Present State of Isostasy," *Travaux de l'Association de Géodésie, L'Union Géodésique et Géophysique Internationale*, Tome 12, Rapports Généraux, Lisbonne, 14-25, septembre 1933, 50 pp. Paris, 1935.

3306. HODGSON, Ernest A., "Methods of Locating Epicentres of Earthquakes" (summary), *The Canadian Surveyor: Proceedings of the Twenty-ninth Annual Meeting of the Canadian Institute of Surveying*, Ottawa, Feb. 5-6, 1936, 64-66, Ottawa, 1936.

— HODGSON, Ernest A., "Progress-report on the Research Connected with the Timiskaming Earthquake of November 1, 1935" (abstract). See p. 76 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

— HODGSON, Ernest A., "Canadian Earthquake of November 1, 1935" (abstract). See No. 3289 of this list.

— HONMA, Syosaku, and KAWASUMI, Hiroshi, "On a Problem Concerning the Internal Structure of the Earth as Discussed from the Time-Distance Curve of the Formosa Earthquake of April 20, 1935." See No. 3316 of this list.

3307. INNES, John R., "Flash Spotters and Sound Rangers: How They Lived, Worked, and Fought in the Great War," George Allen and Unwin, Ltd., 308 pp. Price \$2.50. London, 1936.

A brief review by E. E. Rosaire appears on pp. 278-279 of *Geophysics*, Vol. 1, No. 2, Tulsa, July, 1936.

- INOMATA, Sinzaburo, and MIYABE, Naomi, "Mechanical Strength of 'Dokaku'." See No. 3330 of this list.

3308. INTERNATIONAL GEOLOGICAL CONGRESS, "Report of the XVI Session, United States of America," 2 vols., 1342 pp., 82 papers, 68 abs., many illus. Published by the Congress. Price \$10 per set, \$5 per vol. Washington, 1936.

For a review by L. C. Snider, see pp. 1375-1376, *Bul. Amer. Ass. Pet. Geol.*, Vol. 20, No. 10, Tulsa, Oct., 1936.

- JACOBSEN, L. S., and BLUME, J. A., "The Building and Ground Vibrator." See No. 3303 of this list.

- JACOBSEN, L. S., and CARDER, D. S., "Vibration Observations." See No. 3303 of this list.

- JAEGER, J. J., BROWN, G. S., and HAZEN, H. L., "An Automatic Curve Follower." See No. 3301 of this list.

3309. JAGGAR, T. A., "Memorial of Bundjiro Koto," *Proc. Geol. Soc. Am.*, 263-272, New York, 1936.

A complete bibliography is appended. Quite a number of the publications indicated deal with seismology from the point of view of a geologist.

3310. JAGGAR, T. A., "Hawaiian Volcano Observatory," *Volcano Letter*, No. 435, 1-6, Hawaii, May, 1936.

The article describes, with 8 illustrations, the routine followed in servicing the seismographs at the institution indicated.

3311. JAMESON, M. H., "Geophysical Prospecting in the Witwatersrand Goldfields," *Mines Mag.*, Vol. 26, No. 8, 7-8, 29, 2 fig., Golden, Aug., 1936.

3312. JEFFREYS, Harold, "The Problem of Oceanic Structure," University Press, Cambridge, 15 pp., 1936.

The above forms a communication by the author to the International Union of Geodesy and Geophysics, Edinburgh Meeting, 1936. H.J. + A.G.U.

- JEFFREYS, Harold, "Reliability of Seismograph Stations." See No. 3300 of this list.

- JENKINS, Olaf P., "Progress Report on the New State Geological Map of California" (abstract). See No. 3289 of this list.

— JOERG, W. L. G., "Comment on F. W. Schon's Paper, 'Transforming the Stereographic Map'." See pp. 115-116 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3313. JOHNSON, N. G., and SMITH, G. H., "Explosives for Seismic Prospecting," *Geophysics*, Vol. 1, No. 2, 228-238, 8 fig., 1 tab., Tulsa, July, 1936.

3314. JONES, H. Spencer, "The Royal Research Ship *Research*," *Nature*, No. 3484, Vol. 138, 230-232, London, Aug. 8, 1936.

3315. KAWABATA, Yukio, "Geoid and Crustal Deformation in the Kwanto District," *Geoph. Mag.*, Vol. 10, No. 1, 89-110, 2 fig., 8 maps, 5 tab., bib., Tokyo, Aug., 1936.

— KAWASIMA, Syozi, and MIYABE, Naomi, "Change in Level of the Water of a Well and Aftershocks." See No. 3331 of this list.

3316. KAWASUMI, Hiroshi, and HONMA, Syosaku, "On a Problem Concerning the Internal Structure of the Earth as Discussed from the Time-Distance Curve of the Formosa Earthquake of April 20, 1935" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 10-21, 4 fig., bib., Tokyo, Mar., 1936.

3317. KING, Louis Vessot, "On the Limiting Strength of Rocks under Conditions of Stress Existing in the Earth's Interior," *Jour. Geol.*, Vol. 20, No. 2, 119-138, 2 fig., Chicago, Feb.-Mar., 1912.

3318. KÖHLER, R., "Messung der Schwingungskennziffern und Herabminderung der Erschütterungen in einer Kohlenwäsche," *Zeit. Geoph.*, Jahr. 12, Heft 4, 148-166, 14 fig., bib., Braunschweig, 1936.

The above paper is No. 23 of the series: *Seismische Untersuchungen des Geophysikalischen Instituts in Göttingen*.

3319. KORIDALIN, E. A., MASSARSKIJ (MASSARSKI), S. J., and OSTROVSKIJ (OSTROVSKI), A. E., "Reflected Waves in Seismic Prospecting from the Field Work Experience at Ishimbaievo," *Pub. Inst. Séis., Acad. Sc. URSS.*, No. 74, 46 pp., 20 fig., 4 tab., bib., Moscow-Leningrad, 1936.

The paper is in Russian with a long review in English.

N.V.R.

3320. KUENEN, P. H., "The Snellius Expedition in the Eastern Part of the Netherlands East Indies 1929-1930, Vol. V: Geological Results, Part I: Geological Interpretation of the Bathymetrical Results," *Kemink en Zoon N. V.*, 124 pp., 47 fig., 9 pl., Utrecht, 1935.

A lengthy review by R. T. Chamberlin appears on pp. 648-650 of *Jour. Geol.*, Vol. 44, No. 5, Chicago, July-Aug., 1936.

3321. LAMONT, Archie, "Palæozoic Seismicity," *Nature*, No. 3484, Vol. 138, 343-344, 1 fig., London, Aug. 8, 1936.

3322. LANCASTER-JONES, E., "Geophysical Prospecting," *Reports on Progress in Physics*, Vol. 2, 91-128, London, 1936.

A review by M. M. Slotnick appears on page 278 of *Geophysics*, Vol. 1, No. 2, Tulsa, July, 1936.

3323. LANDSBERG, H., "Note on Earthquake Intensities on Different Floors of Houses," *Ger. Bei.*, Bd. 48, Heft 1, 84-85, 1 tab., bib., Leipzig, 1936.

— LANDSBERG, H., "A Genetic System of Earthquake-origin." See pp. 89-92 (2 tab., bib.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3324. LEE, Frederick, W., "Geophysical Abstracts," No. 86, Washington, June, 1936. F.W.L.

The following note appears on the cover page of this issue: "On July 1, 1936, the Geophysical Section of the U.S. Bureau of Mines was transferred by Act of Congress to the U.S. Geological Survey. Accordingly, this number of *Geophysical Abstracts* will be the last issued by the Bureau of Mines. It is understood that the Geological Survey plans to publish this information annually, instead of monthly as heretofore."

The series of *Geophysical Abstracts* began in May, 1929, and has been continued monthly since without interruption. It has been a most valuable contribution to the bibliography of geophysics. The monthly issues will be missed by many workers in this field. E.A.H.

— LEITH, Andrew, and SHARPE, J. A., "Deep-focus Earthquakes and the Strength of the Earth" (abstract). See No. 3289 of this list.

3325. LYNCH, Joseph, S.J., "Recent Progress in Earthquake Science," *Scien. Amer.*, Vol. 155, No. 2, 88-89, 4 fig., New York, Aug., 1936.

What actually causes earthquakes?—How deep do they originate?—Is the Earth's core a solid or a liquid?—The more we learn the less we know. F.D.H.

— LYNCH, Joseph, S.J., "The New Seismic Vault at Fordham" (abstract). See p. 103 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3326. MACELWANE, James B., S.J., "Introduction to Theoretical Seismology: Part I, Geodynamics," John Wiley and Sons, 366 pp., 67 fig., 40 tab., 15 pl. Price \$6 net. New York, 1936.

Part II of this work, by F. W. Schon, S.J., is reported as No. 1376. It was published in 1932.

Part I, here reported, is of format similar to the earlier published Part II. It is provided with a carefully prepared index which should help to make it useful as the text-book it is intended to be.

The book gives a mathematical treatment of the following subjects: Stresses in an elastic solid; Elastic strain; Elastic body waves; Surface waves; Vector treatment of elastic waves (by F. W. Sohon, S.J.); Reflection and refraction of elastic waves; Paths of seismic rays. The last three chapters deal, in order, with the Interpretation of seismograms; Determination of epicentres; Depth of focus.

The vector treatment of Chapter VI covers briefly the ground of the previous five chapters. The different notation permits briefer formulas and the details required to develop the theory are here omitted. The chapter is useful as a summary and as a demonstration of the convenience of the vector notation.

The chapter on reflection and refraction is made particularly useful by the adoption of a common reference frame for the development after Knott, after Zoeppritz, and after Blut. The comparison of the resulting Knott and Zoeppritz equations is clearly brought out.

The treatment of the Herglotz-Wiechert method of determining a velocity-depth curve is developed first for ideal conditions and then modified to take care of existing conditions. The mathematical treatment is very carefully worked out in complete detail. Its application is later summarized for the convenience of the student.

E.A.H.

- MACQUEEN, P. O., "Sand-craters and Their Possible Significance." See pp. 85-89 (4 fig.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.
- MARTEL, R. R., "A Report on Earthquake Damage to Type III Buildings in Long Beach." See No. 3303 of this list.
- MARTIN, J. M., and NASH, H. E., "Significance of Some Fundamental Properties of Explosives, with Special Reference to Geophysical Prospecting." See No. 3334 of this list.
- MASSARSKIJ (MASSARSKI), S. J., OSTROVSKIJ (OSTROVSKI), A. E., and KORIDALIN, E. A., "Reflected Waves in Seismic Prospecting from the Field Work Experience at Ishim-baievo." See No. 3319 of this list.
- McCOMB, H. E., and HECK, N. H., "Some Observations on Recent Progress in Seismology" (abstract). See No. 3289 of this list.
- McCOMB, H. E., ULRICH, F. P., and HECK, N. H., "Strong-motion Program and Tiltmeters." See No. 3303 of this list.
- McLEAN, R. S., and MOORE, W. W., "Vibration Studies." See No. 3303 of this list.
- MERRITT, George, "Correlations between Tilting of the Ground and the Tides in Chesapeake Bay." See pp. 103-104 (1 fig.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.
- MEYER, William H., Jr., and ELIEL, Leon T., "Aerial Geologizing." See No. 3287 of this list.

3327. MICHLIN, S., "The Plane Strain in Aeolotropic Elastic Media," *Pub. Inst. Séis., Acad. Sc. URSS*, No. 76, 19 pp., Moscow-Leningrad, 1936. N.V.R.
- MILLER, Benjamin L., "Geophysical Investigations in the Emerged and Submerged Atlantic Coastal Plain: Part II—Geologic Significance of the Geophysical Data" (abstract). See No. 3289 of this list. Part I of this paper is listed under the names of Ewing, Crary, and Rutherford.
3328. MITCHELL, Hugh C., "First and Second Order Triangulation in California (1927 Datum)," *U.S.C.G.S., Spec. Pub.*, No. 202, 548 pp. Price 75 cents (from Supt. Documents, Washington, D.C.), 1936.
3329. MIYABE, Naomi, "Recent Seismic Activity in Taiwan" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 1-9, 7 fig., 4 tab., Tokyo, Mar., 1936.
3330. MIYABE, Naomi, and INOMATA, Sinzaburo, "Mechanical Strength of 'Dokaku'" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 141-147, 2 fig., 4 tab., Tokyo, Mar., 1936.
3331. MIYABE, Naomi, and KAWASIMA, Syozi, "Change in Level of the Water of a Well and Aftershocks" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 93-95, 3 fig., Tokyo, Mar., 1936.
- MOORE, W. W., and McLEAN, R. S., "Vibration Studies." See No. 3303 of this list.
3332. MÜHLEN, Walter von zur,
- (1) "Seismische Oberflächenwellen und Fragen der Grosstektonik Nord- und Mitteldeutschlands," *Zeit. Deut. Geol. Gesell.*, Bd. 88, Heft. 5, 341-354, 8 fig., 2 tab., bib., Berlin, 1936. W.v.z.M.
 - (2) "Seismische Bodenunruhe und Brandung," *Zeit. Geoph.*, Jahr. 12, Heft 2-3, 97-111, 2 fig., 5 tab., bib., Braunschweig, 1936.
- An investigation of the connection between the microseisms in Hamburg, Potsdam, Taunus Obs., Stuttgart, Strasbourg, and Kew, with the surf in northern and western Europe, from the point of view of Schwinner's theory. E. Tams.
3333. MUREVSKIS, V., "Eine Hilfsgraphik für Berechnung von Epizentren nach der Geiger'schen Methode," *Geodaetisk Institut, København, Meddelelse No. 7*, 7 pp., 1 fig., 1 tab., København, Denmark.
3334. NASH, H. E., and MARTIN, J. M., "Significance of Some Fundamental Properties of Explosives, with Special Reference to Geophysical Prospecting," *Geophysics*, Vol. 1, No. 2, 239-251, 5 fig., 5 tab., bib., Tulsa, July, 1936.
3335. NASU, Nobuji, "The After-shocks of the Formosa Earthquake of 1935" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 75-86, 13 fig., 3 tab., Tokyo, Mar., 1936.

3336. NATURE. The following notes of interest to seismologists appear in recent issues of Vol. 138 of the above periodical (London, 1936):

- (1) "A Piezoelectric Ultra-micrometer," No. 3482, p. 171, July 25.
- (2) "Tokyo Earthquakes in 1935," No. 3484, p. 252, Aug. 8.
- (3) "Mr. R. D. Oldham, F.R.S.," No. 3486, pp. 316-317, Aug. 22.
- (4) "Seismology in New Zealand," No. 3488, p. 397, Sept. 5.
- (5) "The British Earthquake of April 6, 1580," No. 3489, p. 472, Sept. 12.
- (6) "Carnegie Institution of Washington," No. 3491, pp. 542-543, Sept. 26.
- (7) "Seismology in the United States," No. 3492, p. 582, Oct. 3.
- (8) "International Union of Geodesy and Geophysics," No. 3493, p. 650, Oct. 10.
- (9) "Belluno Earthquake of October 18," No. 3495, p. 713, Oct. 24.
- (10) "The South Sandwich Trench," *Ibid.*, p. 726.
- (11) "Bibliography of Seismology," No. 3498, pp. 836-837, Nov. 14.

3337. NAVARRO NEUMANN, M. Ma. S., S.J., "Sur les causes des tremblements de terre," *Bol. Soc. Sis. Ital.*, Vol. 34, No. 3-4, 87-100, bib., Rome, 1936.

— NEUMANN, Frank, "A Mechanical Method of Analyzing Accelerograms." See pp. 111-115 (2 fig.) of *Trans. A.G.U.*, reported as No. 3269 of this list.

— NEUMANN, Frank, "The Analysis of Records." See No. 3303 of this list.

3338. NISIMURA, Eiiti, "Vibrations of the Aso Volcanological Laboratory Building and Its Surrounding Ground," *Mem. Col. Sc. Kyoto*, Ser. A, Vol. 19, No. 4, 191-206, 2 fig., 4 pl., Kyoto, 1936.

3339. OBSERVATORY, "Geophysical Discussion on 1936 April 24," *The Observatory*, No. 748, Vol. 59, 265-269, London, Sept., 1936.

In addition to a discussion of gravity measurements in Great Britain, the meeting considered a paper by Harold Jeffreys on "The Structure of the Earth down to the 20° Discontinuity" (see No. 3188 (2)).

3340. OCKENDEN, R. E., "Thomas Twyne's Discourse on the Earthquake of 1580," Pen-in-Hand Pub. Co., 44 pp. Price 5s. Oxford, 1936.

The original edition of Twyne's discourse is now very rare. This new edition contains an 8-page bibliography on this earthquake with an epicentre near the east coast of Kent, which occurred on the evening of April 6, 1580, and which shook northern France and Belgium, and England as far as Yorkshire. R.E.O. + E.T.

— OSTROVSKIJ (OSTROVSKI), A. E., KORIDALIN, E. A., and MASSARSKIJ (MASSARSKI), S. J., "Reflected Waves in Seismic Prospecting from the Field Work Experience at Ishimbaievo." See No. 3319 of this list.

3341. OTUKA, Yanosuke, "The Earthquake of Central Taiwan (Formosa), April 21, 1935. and Earthquake Faults" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 22-74, 23 fig., 4 pl., bib., Tokyo, Mar., 1936.
3342. PARTRIDGE, G. F., "The Measurement of Small Amplitudes of Vibration," *Phil. Mag.*, No. 136, Vol. 20, 953-963, London, Nov., 1935.
3343. PASSARGE, H., "Abplattung und Masse der Erde," *Ger. Bei.*, Bd. 48, Heft 1, 81-83, Leipzig, 1936.
- RAPPLEYE, H. S., and REYNOLDS, W. F., "Geodetic Work in Earthquake Regions in California." See No. 3303 of this list.
- REYNOLDS, W. F., and RAPPLEYE, H. S., "Geodetic Work in Earthquake Regions in California." See No. 3303 of this list.
3344. RIEBER, Frank, "Visual Presentation of Elastic Wave Patterns under Various Structural Conditions," *Geophysics*, Vol. 1, No. 2, 196-218, 24 fig., Tulsa, July, 1936.

The author's abstract reads: "The usual form of reflection seismograph operates satisfactorily over simple structural conditions, but frequently fails to obtain part or all of the desired information when structures are steeply folded, faulted or otherwise complicated. The reasons for this are plainly evident if the paths of the waves in the earth can be visualized. This has been done by the use of a technic originally developed for acoustical measurements.

A miniature explosion radiates waves into various models of structure, where reflection and diffraction take place in the same manner as in the earth. The various moving waves are actually photographed in flight. A series of plates is presented, showing wave patterns in various types of structures, ranging from simple to complex. New types of equipment and technic are briefly described, with which exploration may be carried into the more complex structural regions successfully."

3345. RONCALI, G., "Sulle notazioni delle onde sismiche," *Bol. Soc. Sis. Ital.*, Vol. 34, No. 3-4, 134-151, bib., Rome, 1936.
3346. ROSS, S. H., "Earthquakes," *Technique*, Vol. 8: No. 8, 346-350; No. 9, 427-430, 438; No. 10, 465-468, 477; Montreal, Oct., Nov., and Dec., 1933.

The above is a well-written popular presentation of the subject. W.W.D.

3347. ROTHÉ, E., *et al.*, "Annuaire de l'Institut de Physique du Globe, 1934," *Pub. Univ. Strasbourg*, 127 pp., Strasbourg, 1936.

In addition to the usual reports of the stations under the control of the University, the publication contains short addenda by J. Lacoste on Microseisms and by Mme. Hée on the earthquake of Dec. 7, 1934, in Algeria.

- RUGE, Arthur C., "Progress in Engineering-seismology Research at the Massachusetts Institute of Technology" (abstract). See pp. 83-84 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

- RUTHERFORD, H. M., "Reflection Dip-shooting Methods in Seismic Prospecting." See pp. 96-100 (1 fig.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.
- RUTHERFORD, H. M., EWING, Maurice, and CRARY, A. P., "Geophysical Investigations in the Emerged and Submerged Atlantic Coastal Plain: Part I—Methods and Results" (abstract). See No. 3289 of this list. Part II of this paper is listed under Miller.
3348. SAITA, Tokitaro, "On the Earthquake Damages and the Ground in Taiwan (Formosa)" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 96-105, 10 fig., 3 tab., Tokyo, Mar., 1936.
3349. SCHABAUER, Galen B., "Effect of Humidity in Hotwire Anemometry," *Bur. Stand. Jour. Res.*, Vol. 15, No. 6, 575-578, Washington, 1935.
3350. SCIENCE NEWS-LETTER. The following notes of interest to seismologists appear in recent issues of Vol. 30 of the above publication (Washington, 1936):
- (1) "Earthquake is Recorded Near the Philippines," No. 797, p. 44, July 18.
 - (2) "Chilean Quake Recorded at Eighteen Observatories," No. 798, p. 56, July 25.
 - (3) "Quake Center Located Near Walla Walla," *Ibid.*, p. 62.
 - (4) "New Quake Strikes the Coast of Chile," No. 800, p. 89, Aug. 8.
 - (5) "First Earthquake Recorder to be Placed in Museum," No. 801, p. 103, Aug. 15.
This refers to a Ewing seismograph—the first instrument of this kind to record in the United States.
 - (6) "4,000 Earthquakes a Year is Average for Japan," No. 803, p. 139, Aug. 29.
 - (7) "Earthquake's Record Lost in Hurricane Disturbance," No. 808, p. 211, Oct. 3.
 - (8) "Earthquake off Oregon Recorded on Seismographs," No. 809, p. 232, Oct. 10.
 - (9) "Venice Earthquake not Really a 'World-Shaker'," No. 812, pp. 277-278, Oct. 31.
 - (10) "Earthquake Center Was North of Matanuska," *Ibid.*, p. 280.
 - (11) "Quake off Japanese Coast on Our Election Day," No. 814, p. 313, Nov. 14.
 - (12) "Kamchatka Coast Shaken by Friday 13th Earthquake," No. 815, p. 325, Nov. 21.
3351. SCOTT, Harold W., "The Montana Earthquakes of 1935," State of Montana, Bureau of Mines and Geology, Memoir No. 16, 47 pp., 9 pl., 6 tab., Montana School of Mines, Butte, Montana, 1936. W.H.C. + R.R.B.
3352. SEWELL, R. B. Seymour, "Geophysics of the Indo-Pacific Region," *Nature*, No. 3489, 419-420, London, Sept. 12, 1936.

The above indicates a review of the publication "Geographie des Indischen und Stillen Ozeans: Im Auftrage der Deutschen Seewarte verfasst von Prof. Dr. Gerhard Schott." Published by C. Boysen, pp. xx+413, 38 pl. Price 36 gold marks. Hamburg, 1935.

— SHARPE, J. A., and LEITH, Andrew, "Deep-focus Earthquakes and the Strength of the Earth" (abstract). See No. 3289 of this list.

— SHEPARD, Francis P., "Changes of Sea Level as the Cause of Submarine Canyons," "New Discoveries from the California Submarine Canyons," and "Northward Continuation of the San Andreas Fault" (abstracts). See No. 3289 of this list.

3353. SKRINE, C. P., "The Quetta Earthquake," *Geog. Jour.*, Vol. 88, No. 5, 414-430, 10 fig., bib., London, Nov., 1936.

An excellent description of the earthquake by one who is evidently a good observer and also able to give a vivid description of what he has observed.

— SLICHTER, L. B., "Progress-report on a Three-component Seismometer and Tiltmeter" (abstract). See p. 76 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

— SMITH, G. H., and JOHNSON, N. G., "Explosives for Seismic Prospecting." See No. 3313 of this list.

3354. SOCIETY OF PETROLEUM GEOLOGISTS, "Publications of the Society of Petroleum Geologists," *Geophysics*, Vol. 1, No. 2, 279-280, Tulsa, July, 1936.

The list gives the publications to date which have been issued by the above Society.

— SOHON, F. W., S.J., "Transforming the Stereographic Map." See pp. 100-101 (6 fig.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3355. SOMVILLE, O., and AGAMENNONE, G., "Eugene Lagrange" (an obituary), *Bol. Soc. Sis. Ital.*, Vol. 34, No. 3-4, 156-157, Rome, 1936.

Prof. Lagrange died at Brussels on June 15, 1936. In addition to his work in astronomy, he was interested in seismology and was instrumental in establishing the seismological station at Uccle. The above obituary is in French as written by Somville, and in Italian as written by Agamennone.

— STECHSCHULTE, V. C., S.J., "Geological Implications of Deep-focus Earthquakes." See pp. 81-83 of the *Trans. A.G.U.*, reported as No. 3269 of this list.

— STETSON, H. C., "Age of the Submarine Valleys off the Central Atlantic Coast" (abstract). See No. 3289 of this list.

3356. SUZUKI, Takeo, "Earthquake Resistivity of Native Formosan Houses of 'Dokaku' Construction" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 110-119, 4 fig., 3 tab., Tokyo, Mar., 1936.

3357. SYONO, S., "On the Waves Caused by a Sudden Deformation of a Finite Portion of the Bottom of a Sea of Uniform Depth," *Geoph. Mag.*, Vol. 10, No. 1, 21-41, 8 fig., Tokyo, Aug., 1936.

3358. TAKAHASI, Ryutaro,

- (1) "Intensity Distribution of the Formosa Earthquake of April 21, 1935, and the Strength of Dokaku Structures" (Japanese with English abstract), *Bul. Eq. Res. Inst.*, Supp. Vol. 3, 120-140, 12 fig., 10 tab., Tokyo, Mar., 1936.
- (2) "On the Sinuous Buckling of Rails," *Ibid.*, 148-153, 4 fig.

3359. TAYLOR, ROCHESTER, "Earthquake Research under Way," *Taylor, Rochester*, p. 138, Rochester, Third Quarter, 1936.

The publication is the organ of Taylor Inst. Co. The article describes some of the activities of the organizations of the United States engaged in seismological research. On page 140 of the same issue is a short note on a seismograph proposed by Benioff for use in regions subject to severe local earthquakes.

— THOM, W. T., Jr., "Deep-focus Earthquakes from a Geologist's Point of View." See pp. 108-111 (bib.) of the *Trans. A.G.U.*, reported as No. 3269 of this list.

3360. THRUPP, Edgar C., "Earthquake Prediction," *Eng. Jour.* (Organ of the Engineering Institute of Canada), Vol. 19, No. 8, 387-388, Montreal, Aug., 1936.

The above refers to a letter to the editor in which the author claims to have succeeded in solving many problems of physical science which have never been understood before. One of these is the cause of earthquakes and the times of their occurrence. The author states: "The cause has been definitely found and the approximate dates of major events can be predicted at any time in advance." He then predicts a series of disturbances "within ten days before or after a stress peak on November 1 (1936)." The place, or places, where these will occur are not mentioned. J.A.P.

3361. THYSEN, St. von, "Über die Verwendung verschiedenartiger Explosionen zur Erregung seismischer Wellen," *Zeit. Geoph.*, Jahr. 12, Heft 2-3, 86-97, 8 fig., bib., Braunschweig, 1936.

3362. TYDEMAN, G. E., "Notes on Phenomena of a Geophysical Nature," E. J. Brill, pub. 146 pp., 14 fig., 5 tab. Price F. 2.50. Leiden, 1936.

The table of contents is as follows: Preface; Summary; Chap. I, Introduction; Chap. II, The tidal forces (Appendix); Chap. III, The tides of the atmosphere; Chap. IV, The tides of the ocean; Chap. V, Glacial periods and mountain building; Chap. VI, The earth's rotation; Chap. VII, The Secular changes of the ocean level; Chap. VIII, The tides of the earth's main mass; Appendix.

The treatise is an exposition of the author's contention that "prevailing theory of tidal forces during two centuries has been an incomplete dogma, suffering from a great error." This error has been the neglect of what the author terms "Tangential forces." Among other phenomena which he says demonstrate the existence of these forces and their effects the author cites: The variation in latitude and (partially) earthquakes and microseismic tremors. E.J.B. + J.F.S.

— ULRICH, F. P., "Field Parties and Problems," and (with N. H. Heck and H. E. McComb) "Strong-motion Program and Tiltmeters." See No. 3303 of this list.

3363. VANNUCCHI, P. Onorio, "Primo quinquennio di vita dell'Osservatorio sismologico di S. Domenico di Prato," *Bol. Soc. Sis. Ital.*, Vol. 34, No. 3-4, 152-155, Rome, 1936.

3364. WAESCHE, H. H., "Notes on Japanese Volcanology and on Seismological Research," *Volcano Letter*, No. 436, 4-8, Hawaii, June, 1936.

An interesting and informative article devoted mostly to the work on volcanology but also presenting much of interest to seismologists.

3365. WEATHERBY, B. B., "The Organization of an Effective Exploration Department," *Geophysics*, Vol. 1, No. 2, 179-188, 1 fig., Tulsa, July, 1936.

3366. WEBB, Robert W., "Kern Canyon Fault, Southern Sierra Nevada," *Jour. Geol.*, Vol. 44, No. 5, 631-638, 1 fig., bib., Chicago, July-Aug., 1936.

3367. WILLIAMS, N., "Present Rate of Gulf Coast Exploration May Find all Reserves in Two Years," *Oil and Gas Jour.*, Vol. 34, No. 21, 11-12, Tulsa, 1935.

— WILLIS, Bailey, "African Plateaus and Rift Valleys," and "Rift Valley Types" (abstracts). See No. 3289 of this list.

3368. WILSON, John H., "A Proposed Geophysical Program of Exploration for Nebraska and the Dakotas," *Geophysics*, Vol. 1, No. 2, 189-195, 1 map, 1 tab., Tulsa, July, 1936.

See also the abstract of the author's paper on "A Recommended Program for the Exploration of the Great Plains," *Ibid.*, p. 290.

3369. WINGATE, Edward G., "What May be Learned From Tilt," *Volcano Letter*, No. 432, 6-7, Hawaii, Feb., 1936.

Refers particularly to conditions in vicinity of volcano.

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This is the concluding section of the paper. The first section was reported as No. 3266 of these lists.

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