EARTHQUAKE NOTES

EASTERN SECTION
SEISMOLOGICAL SOCIETY OF AMERICA

R. R. Bodle, Editor
U. S. Coast & Geodeic Survey
Washington, D. C.

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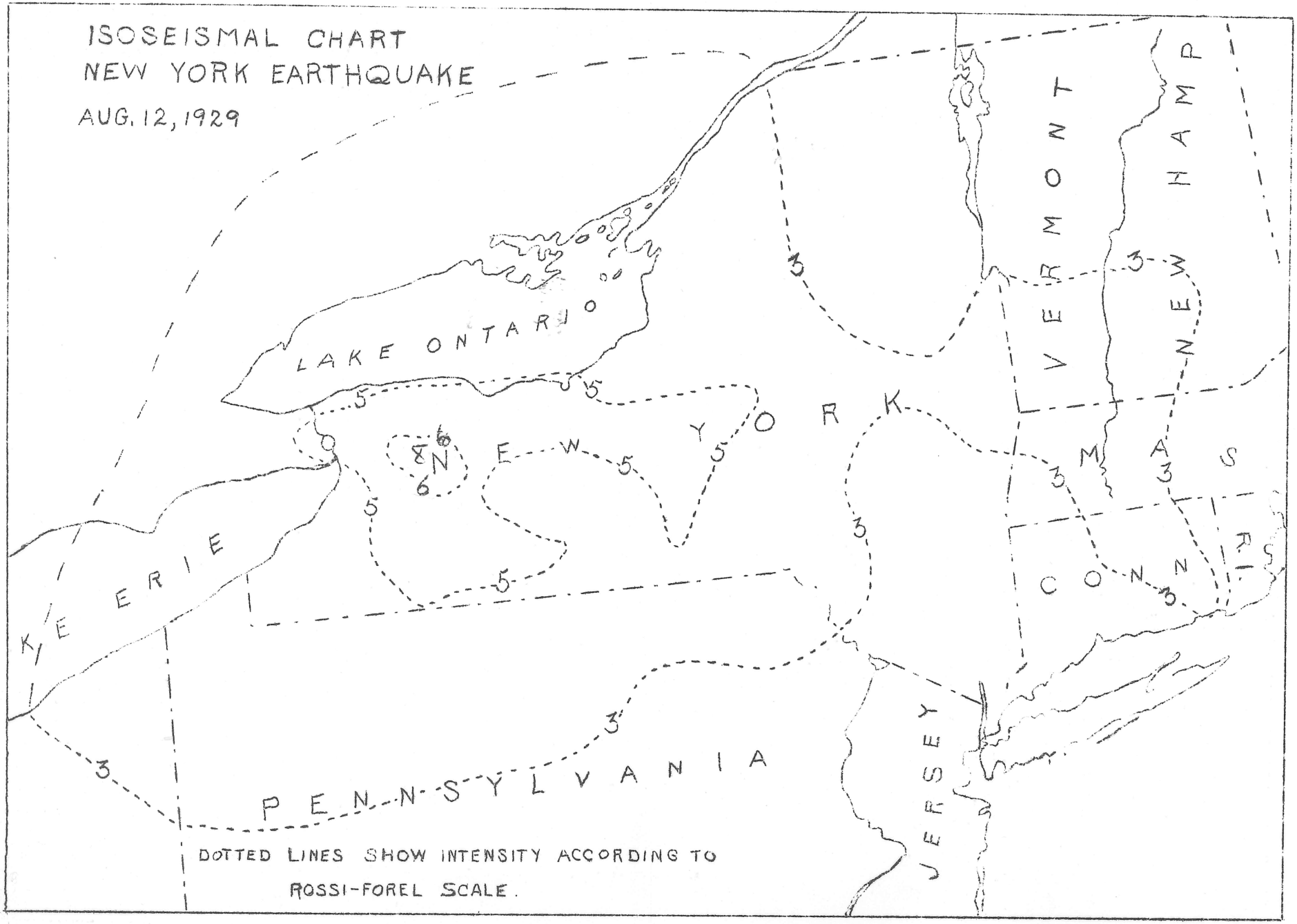
PRELIMINARY REPORT OF THE EARTHQUAKE OF AUGUST 12,1929

The United States Coast and Geodetic Survey issued about September 15, 1929, a preliminary report in popular form to those who collaborated in the collection of information regarding the earthquake. The report was not however intended for the seismologist. Since then additional information has been received and, while the investigation is not yet entirely complete, it is now possible to issue a report that will interest seismologists and others particularly interested in earthquake investigation. The Coast and Geodetic Survey has courteously authorized a preliminary report based on information in its possession to be published in Earthquake Notes.

Sources of information. Reports have been received from about 350 persons who include postmasters, observers of the Weather Bureau, and many other individuals Some special investigations have been made by Mr. H. O. Wardell, Curator, Rochester Municipal Museum, and Mr. W. M. Dawley of Cleveland, Ohio, who was in Attica, N.Y. and made a careful investigation of the damage. Prof. Harry Fielding Reid contributed some interesting facts regarding the history of the region. As a whole the reports received were unusually accurate and complete. Many excellent newspaper reports were received. Mr. Leroy Snyder arranged special cooperation of the Gannett Newspapers, while Science Service, Washington, D.C., in addition to its usual collection and transmission of instrumental results made special efforts to secure information.

The seismographs which recorded the earthquake so that their records could be used in the determination of the epicenter included: Georgetown University; Canisius College, Buffalo; St. Xavier College, Cincinnati; the University of Chicago; the U.S. Bureau of Standards; the University of Virginia; the Dominion Observatory of Ottawa, as well as the Observatory at Toronto, Canada.

History of the region. Many shocks have been felt within the area affected by the earthquake of August 12, 1929, but for this report only those which were felt in the region of Buffalo and Attica are used.
1796 - December 26 - 6:00 a.m. - Sensibly felt for fifty miles around Niagara Falls.
1857 - October 23 - 3:15 p.m. - At Buffalo, N.Y., a man seated in a chair was thrown to the ground. Walls vibrated and surged. Bells rang and crocks fell from shelves. At Lockport, N.Y., rumbling noises were heard for a full minute. This shock was felt at Hamilton, Petersborough, and Port Hope, Ontario, as well as at Rochester, N.Y., and Warren, Pa., or over an area 75 miles long from NNE. to SSW. and 60 miles east-west. Reported felt at Dayton, Ohio.
1858 - January. The exact date is unknown. The shock occurred in early January at 11 or 12 p.m. It came with a dull heavy rumble sound and perceptible shifting of windows and doors. A lighter shock than that of October 1857.
1870 - October 20 - 11:20 a.m. - This shock was most strongly felt along the Saint Lawrence River between Montreal and Quebec but it was widely felt, being reported at Richmond, Va., Dubuque, Iowa, and Sault Ste. Marie, Mich. It was felt along the


ISOSEISMAL CHART
NEW YORK EARTHQUAKE
AUG. 12, 1929
LAKE ONTARIO
LAKE ERIE
NEW YORK
VERMONT
NEW HAMP
MASS
CONN
R.I.
PENNSYLVANIA
JERSEY
DOTTED LINES SHOW INTENSITY ACCORDING TO
ROSSI-FOREL SCALE.

New England Coast from New York to Portland, Me., and in eastern New York in the vicinity of Lake George. Walls were reported cracked in Canada, windows were broken in Portland, Me.; at Albany the duration was one minute with rumbling noise, and at Cleveland, Ohio, clocks stopped. Professor Reid questions the observations at Richmond and Dubuzue.
1873 - July 6 - 9:30 a.m. - Felt in western New York and Canada also Pennsylvania. It was apparently in Canada west of Niagara. It lasted one minute in Buffalo. Rumbling was heard in many places in New York State. The shock was felt at Erie, Meadville, and Titusville, Pa., and in Wheeling, W. Va. Felt in Ohio, West Virginia, Pennsylvania, New York, and Ontario.
1876 - January 8 - 4:30 p.m. - Shock felt at Lockport, N. Y.
1879 - August 21 - 3:00 a.m. - Country between Lake Erie and Ontario severely shaken. Felt at Buffalo, Lockport, and Niagara, N. Y. Strong at St. Catherines, Ontario, where church bells rang. At most places an explosion was heard. It was felt at Beamsville and Welland, Ontario.
1925 - February 28 - 9:19 p.m. - Occured in the St. Lawrence Valley region and was felt in eastern Canada, South to Virginia, and west to the Mississippi River. In the United States the intensity was nowhere more than force seven and for most of the area, force four or less.

Time of occurrence.- From a study of the instrumental records the time is fixed at 6 h. 24.8 m. E.S.T. This is in good agreement with most of the reports from observers. These reports, however, establish the fact that there were earlier shocks.

Reports from Binghampton, N. Y., indicate a shock between 1 and 3 a.m.

Reports from Northampton establish definitely that there was a shock at 5:30 a.m., E.S.T. It was at first thought that there was a confusion of time due to the variable use of day-light saving and eastern standard time in the region, but Mr. G. H. Leonard of Northampton has established the fact that there were two shocks at that place.

The isoseismal map shows a shadow zone in the vicinity of the Adirondack and Catskill mountains. This is well established by the positive character of the reports though they were not very numerous. It is undoubtedly due to the geological formation, since similar phenomena in parts of the Appalachians have been observed in all severe earthquakes affecting that region.

Damage.- From various sources information has been compiled which indicates that the area severely affected was rather limited being confined to the higher sections of Attica on either side of the main street. Letter carriers of the Attica Post Office are said to have made a count of the chimneys destroyed and reported approximately two hundred fifty. Estimates have been received from other sources one of which stated that one hundred twenty-five were down but that approximately three hundred would have to be rebuilt either because they were destroyed or severely damaged. A rotational effect was reported in one instance - the top of the chimney though not toppled was rotated or twisted out of its normal position. Though their chimneys were toppled in many cases the frame houses seemed to have suffered less.

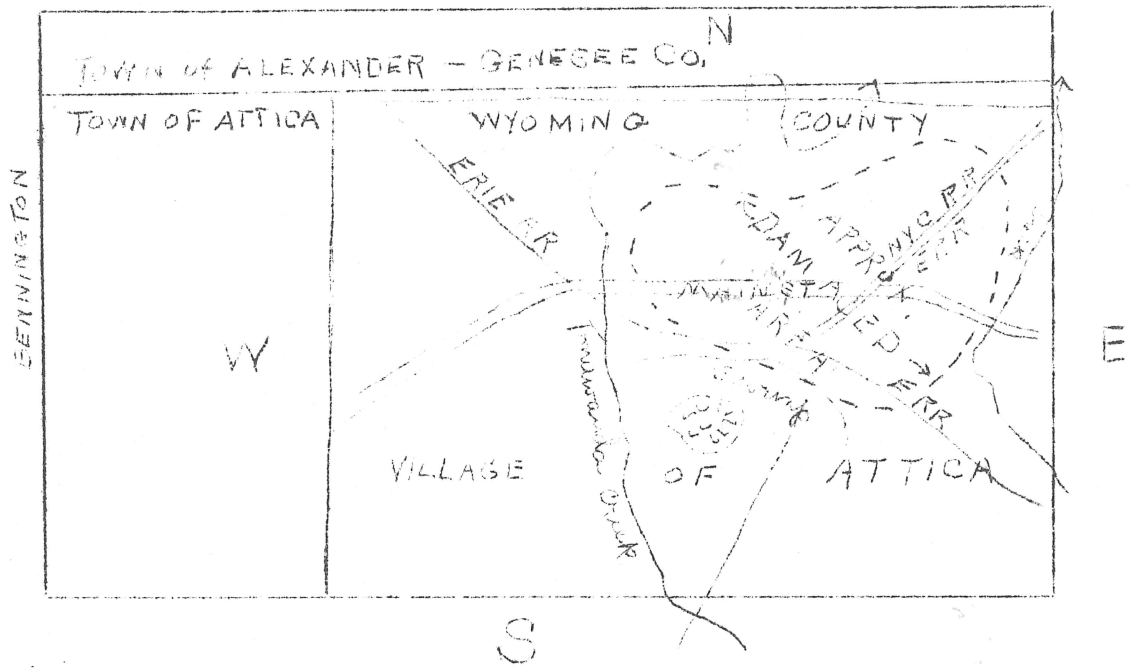
Brick walls suffered as a result of bulging as well as cracks. One wall is reported to have bulged as much as eight or ten inches. Some difficulty was experienced with light and telephone lines, according to press dispatches, as a result of tangled or broken wires. Cracked plaster in the central area was of course quite general as well as the falling of articles from shelves, especially in stores. The Attica high school, which is a strong modern building, suffered diagonal cracks in the walls of the main hall - no damage being done to the east-west walls. Cracks were larger on the third floor.

It is interesting to note that the columns on the Methodist church were

damaged just below the eaves while a tower on the Presbyterian church was not affected - the two being less than a block apart.

Damage to machinery to the Westinghouse plant at Attica, especially in the foundry, made it necessary to close down until repairs could be made. The machinery in the milk factory was also damaged as a result of the earthquake. Though earthquakes are infrequent in the eastern states still less frequently does it happen that industries are hampered as a result of the disturbances.

Mr. W. M. Dawley who made a special investigation in the region reports that he was strongly impressed with the narrow limits of material damage which occurred almost entirely on high level ground and over a bed of glacial till, probably about forty or fifty feet thick. A map which he has very kindly furnished is shown below. The dotted line surrounds the area which Mr. Dawley thinks was most severely affected.



Intensity. - The preliminary report issued by the Coast and Geodetic Survey indicated the maximum intensity at Attica, N. Y., as force seven. Upon receipt of further data and a further review of the information it seems that this statement should be revised to give the intensity as of force eight for the immediate region of Attica.

Reports of damage were received from other towns in the region of Attica but in no case was the damage as severe. From Warsaw comes a report of damaged chimneys and the toppling of a large chimney at the old electric light plant. Batavia and other places in the locality reported damage. The water line at Akron was thought to have been damaged at the time of the quake - the damage being discovered several days later.

Information received from several sources indicate that there was some disturbance of the ground water. Considerable increase in the supply is stated to have occurred in several cases. Since no geological report, made as a result of a special study of this earthquake area, is yet available the above statement can not reasonably be amplified at this time. It is expected that a study of this area will be made by Dr. Arthur Keith of the U. S. Geological Survey and Chairman of the Section of Geology and Geography of the National Research Council.

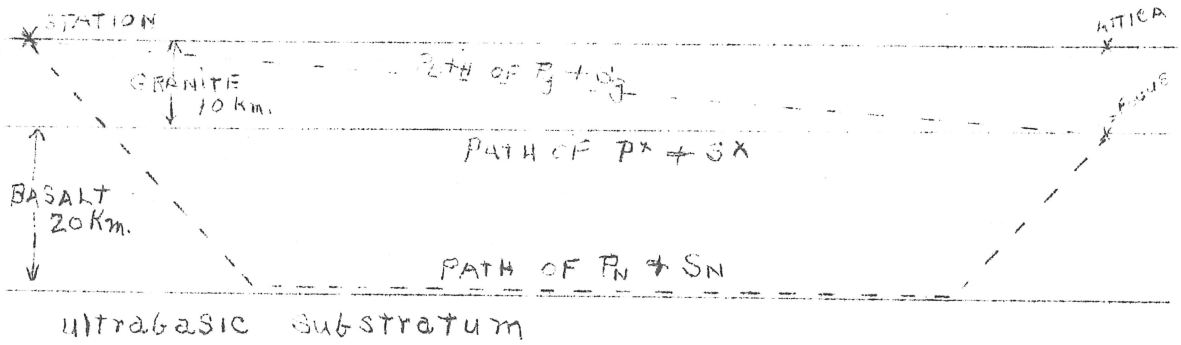
Comdr. N. H. Heck is also visiting the region to investigate discrepancies

in reports and to secure additional information, especially in regard to the effect in Ontario, Canada.

PRELIMINARY REPORT FROM THE CENTRAL STATION OF THE JESUIT SEISMOLOGICAL ASSOCIATION, Saint Louis, Missouri. An examination of some of the instrumental data on the New York earthquake.

We have had only three of the original seismograms; Buffalo's, Cincinnati's, and ours. The Cincinnati record was obscured by local disturbance and insufficient light. The Buffalo seismogram is a fine record and the time correction is accurately known. From the direction of the first impulse on the two components and the orientation of the instrument, I conclude that the on-coming wave was dilatational. From the amplitudes and orientation I find that the direction was from the east 16° south. This is on the supposition that the constants were the same for both components which most likely was not the case. Attica, as I found later, lies about east by 9° 30' south of Buffalo.

You will find the observed data for each station on a separate sheet. To have something definite for the possible identification of phases we assumed Attica, N. Y., 42° 51' 42" N and 78° 20' 51" W, as epicenter and calculated the distances by trigonometry. The travel times of P_n, P*, P_g, and S_n, S*, S_g for these distances were then calculated and you will find the corresponding arrival times(0 = 11h. 24m. 47s., U.S.C. & G.S. determination) for each station in the second column. These travel times were calculated on the basis of Jeffrey's conclusions from the study of near earthquakes, (Cf. Roy. Astron. Soc. Geoph. Suppl., Vol. I, especially pp. 492-93.) The velocities, therefore, of P_n, P*, P_g, and S_n, S*, S_g were taken as 7.8, 6.3, 5.4, 4.35, 3.7, 3.3 km. per second respectively. The granitic layer was assumed to be 10 km. thick, the basaltic layer 20 km. thick and the focus was taken to be at the bottom of the granitic layer, i.e., 10 km. down from the surface. The paths were taken to be as shown in the sketch.



The agreement of observed with calculated phase times is not so bad for a first guess as to location of the epicenter.

J. S. Joliat, S.J.

EARTHQUAKE OF AUGUST 12, 1929

Epicenter: Western New York. 0 = 11h. 24m. 47s.

Buffalo 41.9 km.

Obs.		Calculated	
		P_n	
i_{EN}	11 24 54.4	P*	24 54.7
		P_g	24 55
		S_n	2
i_N	11 24 59.4	S*	24 59.9
i_N	11 25 01	S	25 00

Ottawa 351 km.

Obs.		Calculated	
e	11 25 38	P_n	25 37.2
		P*	25 43.7
		P_g	25 53
i	11 26 20	S_n	26 18
M	11 26 24	S*	26 23
L	11 26 47	S_g	26 33

Georgetown 452.5 km.

Obs.		Calculated	
		P_n	25 50.2
i	11 25 55	P*	25 59.8
		P_g	26 10.8
		S_n	26 39.0
i	11 26 48	S*	26 49.4
i	11 27 11	S_g	26 54.5

Cincinnati 661 km.

Obs.		Calculated	
i_E ??	11 26 17	Pn	26 16.9
i_E ?	11 26 18.4	P*	26 33.0
i_{EN}	11 26 25.7	P_g	26 49.4
iN	11 27 10.4	S_n	27 26.9
iEN	11 27 49	S*	27 47.2
		S	28 07.3

Florissant, Mo. 1115 km.

Obs.		Calculated	
e_E ?	11 27 08.5		
i_E	11 27 10.4	P_n	27 15.1
i_E	11 27 45	P*	27 45
i_E	11 28 10.2		
i_E	11 28 14	P_g	28 13.5
i_{EN}	11 28 59.4	S_n	29 11.3
i_E	11 29 46	S*	29 50
i_E	11 29 56.7		
i_E	11 30 00.8	S_g	30 25

Toronto 123.5 km.

Obs.		Calculated	
iN	11 25 08	P_n	25 08
		P*	25 07.6
i_N	11 25 13	P_g	25 09.9
		S_n	25 22.4
L_n	11 25 22	S*	25 21.9
M	11 25 30	S_g	25 24.5

Ann Arbor 433 km.

Obs.		Calculated	
i	11 25 54	P_n	25 47.6
e	11 26 06	P*	25 56.8
i	11 26 42	P_g	26 07.2
M	11 26 48	S_n	26 34.5
		S*	26 45.5
		S_g	26 58.2

The following are abstracts of some of the papers given at the last meeting of the Eastern Section of the Seismological Society of America in New York.

MACELWANE'S "SOME SEISMOGRAPHIC PROBLEMS AND OUR PRESENT KNOWLEDGE"

(ABSTRACT)

(To be published in full in the Bulletin S. S. of A.)

Engineers are looking for a quantitative measure of earthquake intensity which will permit more exact specifications. It seems clear that the degree of destructiveness depends in some way on energy, period, amplitude and acceleration but in what measure and how remains to be determined by actual experiment. The structure of the outer crust of the earth has been studied intensively for England and Central Europe by means of local earthquakes and explosions but quite different interpretations have been proposed by Gutenberg and Mohorovičićs on the one hand and Jeffries on the other. Similar studies have been carried on in this country and in Japan but with inconclusive results. More stations, better time and special seismographs are required. The character of the S-phase presents problems that are not solved even by the latest theoretical work of Uller. The question of rigidity of the earth's core is still an open one and is seen to be more difficult than ever.

GUTENBERG'S "EARTHQUAKE SURFACE WAVES"

(ABSTRACT)

(To be published in full in the Bulletin S. S. of A.)

Before the time of Lord Rayleigh there was no theoretical basis for surface waves in the mathematical theory of elasticity. His paper in 1887 and the development by Lamb in 1904 afforded a partial explanation but did not account for transverse waves without a vertical component. Wiechert's suggestion in 1907 of free crustal vibrations on a liquid magma was rejected by Zoeppritz. Love (1911) proved the possibility of true shear waves vibrating parallel to the surface of a thin superficial layer differing in density and elasticity from the material beneath it. Uller (1918 sg) evolved a new and more general theory in which he proved the possibility of five types of surface waves in any elastic solid, (1) dilatation waves, appearing only as a transient, (2) pure shear waves, (3) coupled dilatation-shear waves of predominant vertical component (Rayleigh waves), (4) and (5) very complicated dilatation shear waves with predominantly horizontal and less predominantly vertical displacements. None of these theories explains the observed oblique elliptic paths, nor the continuous but irregular increase of period and wave length in some cases and decrease in others.

DALY'S "NATURE OF CERTAIN DISCONTINUITIES, ETC."

(ABSTRACT)

(To be published in full in the Bulletin S.S. of A.)

Four different kinds of experimental evidence suggest that the seismically effective compressibility of a rock is of the order of one-fifth less than its compressibility as determined by the high-pressure method. Additional, specially designed experiments to test this idea are urgently needed. As it stands, the tentative conclusion implies that the crystalline Sial of a continental block is essentially granitic down to a depth not far from 30 kilometers. Below that shell a second shell of granodiorite or quartz diorite is indicated. At the depth of about 45 kilometers is a major discontinuity, which, interpreted on the same basis, represents the interface between the second shell and crystalline basalt, or gabbro. According to Gutenberg's hypothesis, this third shell contacts with a fourth, underlying shell of vitreous basalt, the thickness of which is not now to be readily determined from the wave-velocities in depth. So far as seismological evidence goes, that thickness may possibly approach 1,200 kilometers. A shell of either crystalline or vitreous peridotite near the earth's surface is not suggested by the wave-velocities. The master discontinuity at the depth of 2,900 kilometers seems capable of at least two different explanations.

SOME FIRST PRELIMINARY PHENOMENA AND THEIR POSSIBLE INTERPRETATION

By
Joseph Lynch, S.J.

(ABSTRACT)

In studying some Oxford records a peculiar type of first preliminary record was noted from time to time. The special characteristic was unusually large amplitude, which remained large through the duration of S-P and with shorter period than usual. Special study was made of records of July 6th and August 7th, 1925, the first showing the peculiarity while the other did not, though both were of the same distance and in the same general direction. It was not an instrumental peculiarity since it was recorded on instruments with both mechanical and optical registration. It was not local since it has been noted elsewhere throughout the earth. In the cases studied the notable difference was that the peculiar record was due to a submarine earthquake and the other was under the land (bottom of Mediterranean and Asia, Minor, respectively).

A number of records were studied and it was found that with records of this type 11 were beneath the sea and two under the land. However, one of the latter was doubtful and the other was very violent and this may have caused the type of record. It is, therefore, reasonable to conclude that this type of record is peculiar to submarine earthquakes. Father Macelwane suggests that a further cause may be that the epicenter is an extended rift. It must be concluded that while the phenomena appears to be associated with submarine earthquakes, not all of these have this characteristic and further investigation of the subject is called for.

THE INTERNATIONAL SEISMOLOGICAL SUMMARY

By
Joseph Lynch, S.J.

(ABSTRACT)

The procedure followed in the preparation of the International Summary is described in the number of July 16, 1924. Since this may not be generally accessible a brief review of the method is desirable. The Summary, a quarterly bulletin, listing the earthquakes that have occurred throughout the quarter and giving epicenters determined from reports of stations throughout the earth, is prepared at the Oxford University Observatory under the direction of Professor H. H. Turner.

The monthly data sent out by each station to Oxford is entered and filed on the cards when received, separate cards being used for each earthquake even if there is more than one on a day. The cards, which have the name and geographic constants of the station at the top are filed by days in drawers with the necessary compartments each drawer holding a months records.

When the epicenters are to be determined the stations giving both P and S are first picked out and T_0 (time of origin) is determined by use of the tables, the average of satisfactory values being taken. For first plotting a 30-inch globe of white plaster of Paris is used with meridians and parallels ruled on it. A wooden arc is used to obtain the intersecting arc, the various stations being marked by eyelets let into the plaster. Then the distance and azimuth are determined by computation as described in reference above. The necessary tables are given in Monthly Notices of the Astronomical Society for May 1915 in an article by Professor Turner. Residuals, that is difference between computed and observed times of P and S, are computed and if these balance well the epicenter is adopted, otherwise it is shifted to get a good balance. In some cases depth of focus must be considered in arriving at the best determination.

GEODETIC CONTROL FOR SEISMOLOGICAL INVESTIGATIONS AS ALREADY ESTABLISHED IN EASTERN CANADA

By
Noel J. Ogilvie
(Director of Geodetic Survey in Canada)

(ABSTRACT)

The seismologist is interested, in the case of the more severe earthquakes in whether there has been any change in the earths surface as represented by change in position or elevation of accurately determined points. There are enough such earthquakes in Canada, even though very infrequent, to make this a matter of importance. After the earthquake in 1925 one hundred fourteen miles of precise levels was run in the lower St. Lawrence Valley.

In order to insure maximum value in addition to the standard benchmark there were established at intervals fundamental benchmarks usually in a park or public square, concrete monuments 7 feet in length and projecting 15 inches above

the ground and marked by bronze plates, giving latitude, longitude and azimuth to some easily recognized point in the vicinity. It is readily seen that these will be of great value to the seismologist in addition to their other uses.

There has been considerable triangulation in the region of the earthquake of 1925. Details can be learned from publications of the Canadian government. Information in regard to these can be obtained from the office of the Geodetic Survey of Canada, Ottawa, Canada.

CONCERNING THE NEXT MEETING OF THE EASTERN SECTION

The next meeting of the Eastern Section of the Seismological Society of America will be held in Washington about the usual time. (April 30) The exact date will be dependent on the time of previous meetings of other organizations. Invitations from Georgetown University and the U.S. Bureau of Standards have made it possible to complete the arrangements. The meeting of the Eastern Section, S. S. of A., will be a joint meeting with the section of seismology of the American Geophysical Union.

The fine record for excellent papers at the New York meeting as well as at the San Francisco Meeting of the Society should be maintained. Members of the section are asked to give careful consideration to the matter and indicate papers they are willing to give and also to suggest subjects which might be presented by others. Good progress has been made in obtaining a contribution from a foreign seismologist. This is practically assured. Communications should be addressed to the Chairman, Prof. Alexander McAdie, Blue Hill Observatory, Harvard University, Readville, Mass.

EPICENTERS

Since the last issue of EARTHQUAKE NOTES the following epicenters have been determined. Through cooperation of Science Service data is exchanged between the Coast and Geodetic Survey and the central office of the Jesuit Seismological Association where independent determinations of the epicenters are made. The following are means of the two determinations when both are available.

Date 1929	Time h	m (Greenwich)	Latitude		Longitude		Remarks
July 5	14	19.1	50.5	N	177.5	W	
July 5	22	36.3	51	N	178	W	
July 6	2	03.7	51	N	178	W	
July 6	9	46.1	41	N	26	W	
July 6	23	09.7	51	N	178	W	
July 7	21	23.2	51	N	178	W	
July 17	8	34.2	50.5	N	177	W	
Aug. 12	11	24.8	± 42.9	N	± 78.3	W	(New York)
Aug. 15	19	56.0	4.5	N	81.5	W	
Aug. 17	23	40.4	14.0	N	98.5	W	
Sept.17	19	17.1	52.5	N	133	W	
Sept.27	23	15.8	23.8	N	110.6	W	

Reports from thirteen stations were received on June 27 for a strong activity which occurred about 12h 54 m (G.M.T.). The data was such that no epicenter c could be determined even with the large number of reports. The central office of the Jesuit Seismological Association suggests that there were two earthquakes superposed on the records.

Five reports were received at the Coast & Geodetic Survey for an earthquake which occurred July 14th at about 9h 37m (G.M.T.). Though no position could be determined there seems to be grounds for a statement that the disturbance likely originated in the north Pacific and in the region of the Kamchatka Peninsula.

MISCELLANEOUS EARTHQUAKE NOTES

The late Director of the Coast and Geodetic Survey suggested to the Fourth Pacific Science Congress at Batavia, Java, the desirability of having a central station in the western Pacific for the immediate determination of earthquake epicenters. He also suggested that the work be done at the Manila Observatory. The communication was presented to the Congress by Lt. Comdr. L. O. Colbert, Director of Coast Surveys, Manila, P. I.

Though the Congress did not find the suggestion practicable in the form presented, a plan was substituted which was equally satisfactory. It is thought that the plan adopted will tend to better epicenter determinations for the region. This is referred to in Science, No. 1810, pp 236, and provides for monthly exchange of information in that region. While the plan will not solve the problem of the Coast and Geodetic Survey and the Jesuit Seismological Association for immediate determination of epicenter for that part of the earth, it will insure that errors in such determinations will be discovered and corrected at an early date. It should also insure that the information sent to Oxford, England, for inclusion in the International Seismological Summary will be better coordinated and may help to reduce the number of cases in which the final determination of epicenter in this region are in error.

In view of the plan proposed by the Coast and Geodetic Survey to install a new Wenner seismograph at its magnetic observatory located at Sitka, Alaska, during the spring of 1930 it was found desirable to make a study of the microseismic activity there as well as to obtain information concerning the most suitable site. Through the courtesy of the Carnegie Institution of Washington in loaning the instrument, one component of a Wood-Anderson seismograph has been forwarded to the observatory and temporarily installed for the purpose. While the study is in progress records of wind and surf activities are being kept to learn their effect, if any.

While the Wenner seismometer as well as the Wood-Anderson seismometers have wide ranges it is not possible to record all earthquakes satisfactorily for two reasons: 1.- Even moderate earthquakes throw the record completely off the sheet because of the high magnification necessary in recording distant quakes. 2.- Microseisms may be so excessive that preliminary phases cannot be identified.

H. E. McComb has practically completed a solution of this problem by redesigning the old Bosch-Omori seismograph which has been in use for several years. New details include somewhat increased magnification, oil damping, tilt compensation, and photographic registration with an arrangement which will permit the registration of two horizontal components on the same recording drum. Results indicate that it will meet the need in an inexpensive manner.

Professor Kirtley F. Mather who has charge of the seismological station at Harvard University spent some time in the Canadian Rockies during the summer in field geology work.

L. Don Leet, formerly observer at the Harvard seismological station, has finished his work at the university and moved to Ottawa, Canada, where he plans to spend some time in studying seismology at the Dominion Observatory.

Dr. Keith has spent the summer in New England investigating the geological formations especially in relation to earthquake activities.

The following is an extract from the current number of The Military Engineer (Sept.-Oct. 1929, page 396) and from an article entitled The Romance of Bridge Building. It is interestimg from the seismological standpoint.

"The Carquinez Bridge is the first bridge built with special consideration given to the earthquake forces in designing the structure and in providing special protective details. Six powerful hydraulic buffers are provided at the expansion

joints in order to check longitudinal vibration or any sudden longitudinal movement. The stress computations and the proportions of the earthquake buffers are based on the data of previous earthquake records.

Macelwane, L.H. Adams, Day, and Reid recently attended a conference at Pasadena to discuss wave transmission and other phenomena relating to local earthquakes in connection with the study of the Southern California seismic region. Professor B. Gutenberg of Germany and Harold Jeffreys of England also attended the conference.

Naomasa Yamasaki.-From a recent number of Science we learn of the death in Japan of Naomasa Yamasaki a noted Geologist-Seismologist. He was internationally known for his interest in geography, oceanography, and seismology. Although his interests in geography were broad, he specialized in physiographic subjects, especially the effects of earthquakes in modifying topographic features.

While enroute home to Germany Dr. Gutenberg spent several days in Washington. And Wednesday night, October 23, he gave an address at a joint meeting of the Philosophical and Geological Societies of Washington. The subject was "Some Hypotheses on the Development of the Earth's Crust".
